EFFECTIVENESS OF SELF CARE MODULE ON KNOWLEDGE AND ATTITUDE REGARDING PREVENTION OF MULTIDRUG-RESISTANT TUBERCULOSIS AMONG TUBERCULOSIS PATIENTS AT SELECTED SETTING, CHENNAI.

DISSERTATION SUBMITTED TO

THE TAMIL NADU Dr.M.G.R. MEDICAL UNIVERSITY,

CHENNAI

IN PARTIAL FULFILMENT OF REQUIREMENT FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

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LIST OF ABBREVIATIONS

AIDS	-	Acquired Immunodeficiency Syndrome
ANOVA	-	Analysis of Variance
DOTS	-	Directly Observed Treatment Short Course
HIV	-	Human Immunodeficiency Virus
ICCR	-	International Centre for Collaboration Research
ICTC	-	Integrated Counseling and Testing Centre
IERB	-	Institution Ethical Review Board
INH	-	Isoniazid
IPD	-	Inpatient Department
MDR-TB	-	Multidrug-Resistant Tuberculosis
NRHM	-	National Rural Health Mission
OPD	-	Outpatient Department
PHC	-	Primary Health Centre
PMDT	-	Programmatic Management of Drug Resistant Tuberculosis
RMP	-	Rifampicin
RNTCP	-	Revised National Tuberculosis Control Programme
TB	-	Tuberculosis
UVGI	-	Ultraviolet germicidal irradiation
WHO	-	World Health Organization
WTBD	-	World Marks World Tuberculosis Day

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ABSTRACT

Effectiveness of Self Care Module on knowledge and attitude regarding prevention of Multidrug-Resistant Tuberculosis (MDR-TB) among Tuberculosis (TB) patients at selected setting, Chennai.

Aim and objective: To assess the effectiveness of Self Care Module on knowledge and attitude regarding prevention of Multidrug-Resistant Tuberculosis (MDR-TB) among Tuberculosis (TB) patients. **Methodology:** A quasi experimental, equivalent control group design was chosen to assess the level of knowledge and attitude regarding Self Care Module conducted at selected setting, Chennai. 60 Tuberculosis (TB) patients who fulfilled the inclusion criteria were selected as samples using non probability purposive sampling technique. Self Care Module consists of lecture cum discussion, video show and reinforcement regarding prevention of MDR-TB. The pre and post test level of knowledge and attitude was assessed using structured interview schedule and 4 point Likert scale respectively. **Results:** The findings of the study revealed that the comparison of post test level of knowledge and attitude scores regarding prevention of MDR-TB between experimental and control group, the calculated unpaired 't' value was 16.61 and 18.42 respectively which denotes very high statistical significance at $p<0.001$level. The correlation between the post test level of knowledge with attitude score 'r' value was 0.52 signifies moderate positive correlation .The significant level of association was identified between age, gender and educational status with mean differed knowledge and attitude regarding prevention of MDR-TB in the experimental group. **Conclusion:** Hence the Self Care Module developed by the investigator proved to be an effective aid in enhancing the knowledge and attitude regarding prevention of MDR-TB among Tuberculosis (TB) patients.

Keywords: *prevention of MDR-TB, self care module, Tuberculosis (TB) patients.*

INTRODUCTION

Tuberculosis (TB) remains a major global health problem with devastating social and economic costs .TB spreads from person to person by the release of droplets containing the bacilli (Mycobacterium Tuberculosis) into the air .TB usually affects the lungs, but it can also affect other parts of the body such as the brain, kidneys or the spine .The most essential drugs used for the treatment of TB (anti-TB drugs) are Isoniazid, Rifampicin, Pyrazinamide, Ethambutol and Streptomycin. It is a curable and preventable disease and yet it causes significant morbidity and mortality.

India has the highest TB burden of all the country in the world, accounting for an estimated one- fifth TB cases worldwide. It has an estimated prevalence of million TB cases, with 2 million new cases occurring each year **(World Health Organization, 2013).** Similarly, Multidrug-Resistant Tuberculosis (MDR-TB) detection from 2009

been tripled in 2013 as 3,00,000. Thus the medical professionals are in a situation to reduce the morbidity and mortality rate.

Although adequate knowledge about importance of drug compliance of Tuberculosis patients are provided, most of the patients are not aware about the consequences of post TB. So the researcher was fervent to develop a module on prevention of MDR-TB through Self Care Module, which is a set of instructions with components such as respiratory, household and environmental hygiene, diet and importance of vaccination for MDR-TB among Tuberculosis patients through education, video show and MDR-TB Module.

OBJECTIVE

To assess the effectiveness of Self Care Module on knowledge and attitude regarding prevention of Multidrug-Resistant Tuberculosis(MDR-TB) among Tuberculosis (TB) patients.

METHODOLOGY

Research Design

Quasi experimental, equivalent control group design.

Variables

Independent Variable

Self Care Module

Dependent Variables

Knowledge and attitude regarding prevention of MDR-TB among Tuberculosis patients

Setting

District Tuberculosis Centre, Karayanchavadi, Chennai

Population

Target population- All the patients medically diagnosed with Tuberculosis confirmed either in their sputum smears/X-ray/scan/biopsy.

Accessible population-Patients medically diagnosed with Tuberculosis, who fulfilled the inclusive criteria at District Tuberculosis centre, Karayanchavadi, Chennai.

Sampling

The patients diagnosed with tuberculosis, who fulfilled the inclusion criteria by non probability purposive sampling technique.

Intervention

Self Care Module comprised of

- Lecture cum discussion on MDR-TB (Disease condition and treatment with prevention)
- Video show on preventive measures of MDR-TB
- Pictorial module on overview of MDR-TB.

Measurements and tool

The pre and post test level of knowledge was assessed using structured interview schedule**.** It consists of 20 multiple choice questions and categorized into 2 components about the disease condition, treatment and prevention of MDR-TB.

The pre and post test level of attitude was assessed using 4 point Likert scale consisting of 10 statements out of which 5 were positive and 5 negatively worded statements

RESULTS

The findings of the study revealed that the comparison of post test level of knowledge and attitude scores regarding prevention of MDR-TB between experimental and control group, the calculated unpaired 't' value was 16.61 and 18.42 respectively which denotes very high statistical significance at $p<0.001$ level.

The correlation between the post test level of knowledge with attitude score was calculated using Karl Pearson correlation coefficient with 'r' value of 0.52 signifies moderate positive correlation, indicates when knowledge of Tuberculosis patient increases their level of attitude also increases .The significant level of association was

identified between age, gender and educational status with mean differed knowledge and attitude score in the experimental group.

DISCUSSION

There was a significant improvement of knowledge and attitude regarding prevention of Multidrug-Resistant Tuberculosis (MDR-TB) among Tuberculosis (TB) patients in the post test after administration of Self Care Module. Thus Self Care Module was an effective education tool in improving the knowledge and attitude of Tuberculosis (TB) patients regarding prevention of MDR-TB.

CONCLUSION

Researcher concluded that utilization of Self Care Module developed by the investigator will help to improve the knowledge and attitude regarding MDR-TB prevention in OPD and IPD of various hospital .It enhances the regular compliance of medication and prevents from MDR-TB. The findings of the study reveals that there is a significant difference in the pre test and post test level of knowledge and attitude regarding prevention of MDR-TB among Tuberculosis (TB) patients. This proves that the module is more effective and shows that as knowledge increased attitude also increased.

IMPLICATIONS

The nurse plays a essential role in building the knowledge and attitude on preventive aspects. The intervention is cost effective, reliable and can be incorporated by the nurses in all the specialized hospitals in preventing MDR-TB. The study enables the nurse educator to incorporate the findings in nursing curriculum with evidence based practice. A nurse administrator can organize the training programme for the caregivers and other patients with TB for reducing the disease burden**.** The findings of the study can be disseminated through conferences, seminars and by publishing in journals.

Internal Examiner:

External Examiner:

INTRODUCTION

The single biggest threat to man's continued dominance on the planet is the micro-organisms **(Joshua Lederberg).** India is undergoing a epidemiologic, demographic and health transition. At present communicable or infectious disease is the leading cause of illness and death. Infectious diseases are caused by pathogenic micro-organisms, such as bacteria, viruses, parasites or fungi; it can be spread from one person to another directly or indirectly **(World Health Organization (WHO), 2006).**Globally there are **13** notifiable communicable diseases, amongst Tuberculosis is the leading cause of death**.**

Tuberculosis (TB) remains a major global health problem with devastating social and economic costs. TB spreads from person to person by the release of droplets containing the bacilli (Mycobacterium Tuberculosis) into the air. TB usually affects the lungs, but it can also affect other parts of the body such as the brain , kidneys or the spine .The most essential drugs used for the treatment of TB (anti-TB drugs) are Isoniazid, Rifampicin, Pyrazinamide, Ethambutol and Streptomycin. It is a curable and preventable disease and yet it causes significant morbidity and mortality.

In some extent, use of anti-TB drugs, has contributed significantly to the emergence of Drug-Resistant TB in India .Depending upon the number of drugs to which bacilli are resistant ,various types of TB are originated such as :Mono Drug Resistant TB, Poly Drug Resistant TB, Multidrug-Resistant TB (MDR-TB) and Extensively Drug Resistant TB. Drug resistance arises due to irregular and incomplete treatment, poor treatment management, non-availability of certain drugs and no monitoring of treatment.

MDR-TB is a specific form of drug resistant TB due to bacilli resistant to at least Isoniazid and Rifampicin, with or without resistance to any other anti-TB drugs .The person may be infected with a Tubercle strain that is already drug-resistant .This is termed as primary drug resistance .The Multidrug Resistance develops while the person is receiving drug therapy, the resistance is called acquired drug resistance.

In both the cases, the patient who's not receiving a strong enough dosage of the drugs over a long enough period of time to kill the bacilli, so the organisms are given time to develop resistance to one or more of the drugs.

The diagnosis of MDR-TB in field conditions is a challenge. Because of slow growth of M .Tuberculous bacilli it takes a long time to isolate the bacilli on culture .The goal of MDR-TB treatment is to prevent the further development and spread of MDR-TB. A standard treatment is administered for the treatment of MDR-TB patients, into two phases which are initial Intensive phase followed by the Continuation phase. The regimen comprises of 6 drugs in the intensive phase (6 months) and 4 drugs in the Continuation phase (18 months).

Every year, on 24th March ,the World marks World TB day (WTBD), is celebrated to mobilize the political and social commitment for further progress towards eliminating Tuberculosis as a public health burden .This year World TB day 2015 paves the theme: "Reach the 3 million: Reach , Treat ,Cure Everyone with TB and accelerate progress towards the bold goal of ending TB by 2035".The WHO denotes the importance of eliminating the access barriers to all recommended Tuberculosis diagnostics and drugs ,and addresses Tuberculosis and MDR-TB as global health security threats .As there is a urgent need to fight against the disease.

1.1 BACKGROUND OF THE STUDY

India has the highest TB burden of all the country in the world, accounting for an estimated one-fifth TB cases worldwide. It has an estimated prevalence of million TB cases, with 2 million new cases occurring each year. About 280,000 people die from TB in India annually**. (WHO, 2013)**

Table: 1.1.1 Global incidence of Tuberculosis by comparing between India and other country (2010-14)

Year	India (in million)	Other country (in million)
2010	1.98	9.4
2011	1.6	8.8
2012	2.3	8.6
2013	2.1	9
2014	2.3	9

Source: WHO, 2014

Table: 1.1.2 Global morbidity and mortality rate of TB and MDR-TB in the year of 2014

TB and Co-infection	Morbidity	Mortality
Tuberculosis	9.6 million	1.5 million
TB and HIV	1.2 million	0.4 million
TB among women	3.2 million	480,000
TB in children	1.0 million	140,000
MDR-TB	480,000	190,000

Source: WHO, 2014

Table: 1.1.3 Statistics of MDR-TB prevalence among new cases of MDR-TB and previously treated TB patients with MDR-TB

Year	New cases (%)	Previously treated TB patients with MDR-TB (%)
2010	2.1	15
2011	2.5	18.5
2012	15.4	25
2013	3.5	20.5
2014	20	50

Source: WHO, 2014

There is tripling in MDR-TB in 2013 detection compared with 2009.Extensively drug-Resistant TB (XDR-TB) has been reported by 100 countries in 2013. On average, an estimated 9% of people with MDR-TB have XDR-TB. If all notified TB patients (6.1 million, new and previously treated) had been tested for drug resistance in 2013, an estimated 300 000 cases of MDR-TB would have been detected.

Only 48% of the MDR-TB patients in the 2011 cohort of detected cases were successfully treated. 16% died, 24% did not have their treatment outcome documented or interrupted treatment, and 12% were not cured despite receiving treatment.

India's Revised National Tuberculosis Control Programme (RNTCP) has an overall goal of providing universal access to quality diagnosis and treatment for all TB

patients, with an intermediate goal of successfully treating at least 90 percent of all new and at least 85 percent of all previously treated patients.

Despite these achievements, India's efforts to control TB and MDR TB still suffer from too few laboratories, slow diagnostic tools, inadequate management of treatment, insufficient supplies of second-line drugs, and shortages of trained personnel.

RNTCP expects to treat about 1,60,000 MDR-TB and 4,100 XDR-TB cases over the next 5 years (2012-2017). Therefore new tools are required by 2025, for enhancing the treatment for MDR-TB crisis thereby to provide a quality care.

1.2 SIGNIFICANCE AND NEED FOR THE STUDY

India has a long and distinguished tradition of research in Tuberculosis and MDR-TB. Directly Observed Treatment Short Course (DOTS) is effective in preventing the emergence of MDR-TB and reverses the incidence of MDR-TB. So we have to end MDR-TB by stopping the TB development and spread.

National Strategic Plan TB India (2012-2017)

Newer strategies have been developed as a comprehensive National Strategic Plan under the 12th Five Year Plan of Government of India (2012) and they have identified the thrust areas such as:

- Strengthening and improving the quality of basic DOTS services
- Further strengthen and align with health system under National Rural Health Mission(NRHM)
- Deploying improved rapid diagnosis at the field level
- Expand efforts to engage all care providers
- Strengthen urban TB Control
- Expand diagnosis and treatment of drug resistant TB
- Improve communication and outreach
- Promote research for development and implementation of improved tools and strategies.

The END TB global strategy and targets for Tuberculosis prevention, care and control after 2015:

- Their goal is to end the global Tuberculosis epidemic
- Vision is to provide a world free of Tuberculosis-zero deaths, disease and suffering due to Tuberculosis
- The components of this strategy are ;
    - ❖ Integrated, patient-centered care and prevention
    - ❖ Bold policies and supportive systems
    - ❖ Intensified research and innovation**(WHO)**

The essential elements of the DOTS-Plus strategy framework for the management of multidrug-resistant TB are;

- Sustained government commitment
- Accurate, timely diagnosis through quality assured culture and drug susceptibility testing
- Appropriate treatment utilizing second-line drugs under strict supervision
- Uninterrupted supply of quality assured anti-TB drugs and
- Standardized recording and reporting system.

These component addresses that the Multidrug-resistant TB awareness will strengthen the existing TB control programme.

Specific measures are being taken within the Revised National Tuberculosis Control Programme (RNTCP) to address the MDR-TB problem through appropriate management of patients and strategies to prevent the propagation and dissemination of MDR-TB.

Ascora (2014) conducted a study to drug Resistance in Mycobacterium tuberculosis Isolates from Northeastern Sudan conventional and molecular techniques with 100 samples, the study showed that drug resistant tuberculosis increased steadily and provided potentially valuable information on resistant genes circulating in the community.

Berhanu Seyoum, Meaza Demissie, Alemayehu Worku, Shiferaw Bekele, Abraham Aseffa (2014) conducted a cross-sectional study aimed at determining the prevalence and drug resistance patterns of Mycobacterium tuberculosis among new smear positive pulmonary tuberculosis patients visiting TB diagnosis and treatment facilities among 357 patients at selected health facilities in eastern Ethiopia. The findings reveal that the prevalence of MDRTB is relatively low in the study area and hence expanding diagnostic capacity for mycobacterial culture and DST is a vital step in this regard.

Indian researcher with evidence **Sasee (2011)** suggested that certain data had been the contributing factor for developing MDR-TB; they are age group, education, occupation, history of smoking and type 2 diabetes. Researcher **Issakidis (2010)** conducted a study and understood that TB with HIV co-infection patients may develop MDR-TB due to family caregivers being transverse to maintain mental and physical health of those patients by leading into treatment adherence.

Dhammika Nayoma Magana (2011) the results of experimental studies performed with strains resistant to INH, SM or RMP suggested that, in clinical settings, there was a strong selection pressure for drug resistance-conferring mutations that cause minimal fitness defects.

Bikram Singh Datta, Ghulam Hassan, Syed Manzoor Kadri, Waseem Qureshi, Mustadiq Ahmad Kamili, Hardeep Singh (2010) conducted a study to assess the profile of Multidrug-Resistant Tuberculosis (MDR-TB) and Extensively Drug-Resistant Tuberculosis (XDR-TB) among 970 cases in tertiary care hospital setting, Kashmir valley of India. The findings denotes that for effective treatment of MDR-TB and XDR-TB, early case detection, improved laboratory facilities, availability of appropriate treatment regimens, and financial assistance in resource-limited settings through effective political intervention are necessary for better patient adherence and overall cure

Patient with MDR-TB face the prospect of lengthy and often unpleasant treatment as well as the real possibility of premature death. Therefore, counseling and emotional support are particularly important much as in any other chronic life-threatening illnesses.

Healthcare providers have the responsibility of providing quality patient care to achieve MDR-TB control. Effective control of MDR-TB will be possible if all these agencies come together and work towards a common goal with complete co-operation.

The researcher had practical experience in the speciality of Medical Surgical Nursing, in that view most of the TB patients had lack of knowledge regarding TB and MDR-TB. In OPD or IPD stay in hospital the explanation of treatment regimen is must. So the researcher prepared a module regarding prevention of MDR-TB. This promotes a quality of life for the TB patients.

1.3 STATEMENT OF THE PROBLEM

A quasi experimental study to assess the effectiveness of Self Care Module on knowledge and attitude regarding prevention of Multidrug-Resistant Tuberculosis (MDR-TB) among Tuberculosis (TB) patients at selected setting, Chennai.

1.4 OBJECTIVES

1. To assess and compare the pre and post test level of knowledge and attitude regarding prevention of MDR-TB among the experimental and control group.
2. To assess the effectiveness of Self Care Module on knowledge and attitude regarding prevention of MDR-TB between the experimental and control group.
3. To correlate the post test level of knowledge with attitude score regarding prevention of MDR-TB in the experimental and control group.
4. To associate the selected demographic variables with the mean differed level of knowledge and attitude regarding prevention of MDR-TB in the experimental group.

1.5 OPERATIONAL DEFINITIONS

1.5.1 Effectiveness

It refers to the outcome of the Self Care Module on knowledge and attitude regarding prevention of Multidrug -Resistant Tuberculosis (MDR-TB) among Tuberculosis patients which was assessed using structured interview schedule and 4 point Likert scale devised by the investigator measured at the 7^{th} day after intervention.

1.5.2 Self Care Module

It is a set of instruction structured by the investigator for the Tuberculosis patients in order to prevent from Multidrug-Resistant Tuberculosis (MDR-TB).The set of instructions includes,

- Lecture cum discussion on general information regarding Multidrug- Resistant Tuberculosis, its disease condition, treatment and preventive methods using power point presentation for 5-7 members in a group with the duration of 20-30 minutes.
- Video show regarding the preventive measures of MDR-TB for 5-7 members in a group for about 15 minutes.
- Reinforcement on overview of MDR-TB through Pictorial booklet to enhance the knowledge.

1.5.3 Knowledge

It refers to the level of understanding and information gained through Self Care Module by the Tuberculosis patients regarding the prevention of MDR-TB and was evaluated by the structured interview schedule developed by the investigator.

1.5.4 Attitude

It refers to the level of perception of Tuberculosis patients regarding prevention of Multidrug-Resistant Tuberculosis through the utilization of Self Care Module and was assessed by the 4 point Likert scale.

1.5.5 Prevention of Multidrug-Resistant Tuberculosis

It refers to the process of reducing the chance of MDR-TB occurrence through Self Care Module with components such as Hygienic practices-Respiratory hygiene/cough etiquette, techniques to wear mask, steps in collecting the sputum and hygiene, hand washing technique; Household hygiene; MDR-TB and HIV; MDR-TB and Diabetes; Medication; Regular follow up are explained to the TB patients through education, video show and reinforce through pictorial booklet.

1.5.6 Tuberculosis patients

It refers to the patients who are under 20-70 years of age and medically diagnosed with Tuberculosis confirmed either in their sputum smears/X-ray/scan/biopsy whereby receiving regular DOTS therapy at District Tuberculosis Centre.

1.6 ASSUMPTIONS

1. Self Care Module may improve the knowledge and provide favourable attitude among Tuberculosis patients.
2. The Tuberculosis patients may have some knowledge and attitude on prevention of MDR-TB.

1.7 NULL HYPOTHESES

NH_1: There is no significant difference in the post test level of knowledge and attitude regarding prevention of MDR-TB between the experimental and control group at $p<0.05$ level.

NH_2: There is no significant relationship between the post test level of knowledge and attitude regarding prevention of MDR-TB in the experimental and control group at $p<0.05$ level.

NH_3: There is no significant association of selected demographic variables with the mean difference level of knowledge and attitude regarding prevention of MDR-TB in the experimental group at $p<0.05$ level.

1.8 DELIMITATION

1. The study is delimited to a period of four weeks.
2. The study is delimited only to the Tuberculosis patients.

1.9 CONCEPTUAL FRAMEWORK

A conceptual framework or conceptual model is a set of highly abstract, related constructs that broadly explains phenomena of interest, expresses assumptions, and reflects a philosophical stance **(Nancy Burns and Susan K. Grove, 2009).**

Interaction theories are based on the relationships among persons. Emphasis is given on the person's perceptions, self concept and ability to communicate and perform roles thereby goal is achieved through reciprocal interaction.

In view of explaining and relating various aspects of the phenomena related to the interaction between the Nurse Investigator and the Tuberculosis patients regarding prevention of MDR-TB, the investigator has adopted on Evelyn Adam Interpersonal Relationship Model to conceptualize the study.

Evelyn Adams was one of the earliest nurse theorists born in 1929, she had focused on nurse's independent contribution to health services and insisted that the helping relationship and the system process are important to achieve professional goal.

Adam focused on the following component;

- Interaction
- Assessment
- Goal setting
- Intervention
- Change in behavior

Interaction

Human relationship between the beneficiary and the professional aids the helpee to live more satisfactorily. In interaction phase, the nurse investigator and the patient together interacted and developed helping relationship. This relationship and systemic process helped the nurse investigator to render Self Care Module with less difficulty.

Assessment

Assessment is the instrument used in collecting information about the beneficiary. This phase refers to the assessment of demographic variables and to find the effectiveness of Self Care Module on knowledge and attitude regarding prevention of MDR-TB among experimental and control group. Nurse investigator used structured interview schedule and 4 point Likert scale to assess the knowledge and attitude.

Goal Setting

At the end the investigator and the TB patients strive to achieve changes in behavior. In this study the goal is to enhance the knowledge and attitude regarding the prevention of MDR-TB.

Intervention

It refers to the focus and modes of the professional intervention to bring changes in patient's behavior. According to this study, this phase refers to the administration of Self Care Module which includes education, video show and pictorial booklet by the investigator to the Tuberculosis patients.

Change in behavior

The new behavior is indicated as positive outcome in the attainment of adequate knowledge and favourable attitude regarding prevention of MDR-TB. This may be reinforced by providing MDR-TB Module. This indicates the satisfaction of the needs.

If the need not satisfied, reassessment was done and re-education was given.

CONCLUSION

The framework guides the investigator to have a interactive relationship with the Tuberculosis patients and promote their knowledge towards prevention of Multidrug-Resistant Tuberculosis.

1.10 OUTLINE OF THE REPORT

Chapter 1: Deals with the background of the study, significance and need for the study, statement of the problem, objectives, operational definitions, null hypotheses, assumptions, delimitations and conceptual framework

Chapter 2: Focuses on critical and scientific review of literature related to the present study

Chapter 3: Enumerates methodology of the study

Chapter 4: Presents the data analysis and data interpretation

Chapter 5: Deals with the discussion of the study

Chapter 6: Gives the summary, conclusion, implications, recommendations and limitations of the study.

The study report ends with selected references and appendices.

REVIEW OF LITERATURE

SECTION 2.1: CONCEPTS OF REVIEW OF LITERATURE

This chapter deals with the literature review which determines what is known and unknown about a particular concept. According to Barbara Krainovich**, (Wood and Judith Haher, 2002),** the review of literature is considered as a "systematic and critical review of the most important scholarly literature on a particular topic**".** In particular **"**Critical review is meant as summarization and evaluation of the ideas and information of an article**"**. It means thinking carefully and clearly and taking into consideration about both the strengths and weaknesses of the content under the review.

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The three main purposes of reviewing the literature is to describe what is known already about a topic **,**provides background for designing a research study and answers questions about clinical practice ,developing new projects and making decisions in nursing **(Marilyn and Judith, 2011).**

The design used in this study was quasi experimental, equivalent control group design to find the effectiveness of Self Care Module on knowledge and attitude regarding prevention of Multidrug-Resistant Tuberculosis (MDR-TB) among Tuberculosis (TB) patients.

SECTION 2.2: SOURCES OF REVIEW OF LITERATURE

This literature review was entailed through the various sources such as primary: from published existing research studies, secondary: from national and international journal articles and conference manual and the tertiary sources from Medical Surgical Nursing and Community Health Nursing books. The search database is from Google Scholar, Cochrane Database of Systematic Reviews, Cumulative Index to Nursing and Allied Health (CINAHL) and Pubmed and the keywords used for it was Tuberculosis ,MDR-TB, prevalence, morbidity, mortality, causes, risk factors, symptoms, diagnosis, adverse effects, treatment, treatment outcome, prevention, complications, interventions, education, HIV and co-infection, and XDR-TB. As of overall reference, 23 reviews been collected from national journals and 40 from international journals.

SECTION 2.3: ORGANIZATION OF REVIEW OF LITERATURE

SECTION 2.3.1: Critical and scientific reviews related to prevalence of MDR-TB

SECTION 2.3.2: Critical and scientific reviews related to risk factors of MDR-TB

SECTION 2.3.3: Critical and scientific reviews related to diagnostic measures of MDR-TB

SECTION 2.3.4: Critical and scientific reviews related to treatment for MDR-TB

SECTION 2.3.5: Critical and scientific reviews related to knowledge and attitude regarding prevention of MDR-TB

SECTION 2.3.1: CRITICAL AND SCIENTIFIC REVIEWS RELATED TO PREVALENCE OF MDR-TB

Critical Reviews

Researchers **(Surendra Sharma, Sanjeev Kumar, Saha, Ninoo George, Arora, Deepak Gupta, Urvashi Singh, 2012)** conducted a cross-sectional descriptive study to assess the prevalence of MDR-TB among Category II pulmonary TB patients and found that it was very significant. Many Indian researchers **(Kondapaka, KiranKumar, Vishnu, 2011; Surapaneni, 2010)** conducted studies to assess the proportion of the TB patients having MDR-TB at the initiation of retreatment regimen and it was concluded that one third of the retreatment pulmonary TB cases are needed of Ethambutol in the continuation phase of new TB case treatment in view of high INH resistance.

Few Indian researchers **(Subhakar, et.al, 2010)** studied to ascertain the prevalence of MDR-TB among new cases of sputum-positive pulmonary TB and interpreted that prevalence was low among new cases.

Scientific Reviews

Hassan S.O. (2014) conducted a study to Drug Resistance in Mycobacterium Tuberculosis Isolates from Northeastern Sudan conventional and molecular techniques with 100 samples, the study showed that drug resistant tuberculosis increased steadily and provided potentially valuable information on resistant genes circulating in the community

Subhakar Kandi, et al (2013) conducted an analytical, observational, prospective cohort study to assess the proportion of the TB patients having MDR-TB at the initiation

of retreatment regimen among 100 patients in a tertiary hospital, Hyderabad. The findings shows that one third of the retreatment pulmonary TB cases had MDR-TB at the initiation of the treatment and recommended that there is a need to include Ethambutol in the continuation phase of new TB case treatment in view of high INH resistance.

Evans Sagwa (2012) conducted the study on the burden of adverse events during treatment of drug-resistant tuberculosis in Namibia**.** The objective of this study was to assess the prevalence, profile and outcome of adverse events (AEs) associated with treatment of DR-TB and to explore possible influences of HIV disease on the occurrence of adverse events. The findings are adverse events of varying severity are common during treatment of DR-TB, particularly in the intensive phase of therapy.

Elisabeth Sanchez, et al (2012) conducted study to measure the prevalence of drug resistance TB among 988 patients in Swaziland. The findings assert that the prevalence of MDR-TB is more common among previously treated tuberculosis patients and they recommend for need of wide-scale intervention in this resource limited area as there is lack of health personnel, diagnostic and treatment facilities.

Deepak Almeida, Camilla Rodrigues, Zarir F. Udwadia, Ajit Lalvani, G. D. Gothi, Pravin Mehta, (2011) compared the incidence of multidrug resistance in 150 consecutive Mycobacterium tuberculosis isolates obtained from a rural center (in Sakawar, India) and an urban tertiary care center (in Mumbai, India). The study highlights an alarmingly high percentage of multidrug-resistant M. tuberculosis isolates in Mumbai as compared with that at the rural center.

Deivanayagam CN, et al, (2010) mounted a study to assess the prevalence and pattern of drug resistant pulmonary tuberculosis among treated patients or on those on treatment without adequate response and to evaluate HIV seropositivity among MDR-TB patients among 1000 Pulmonary TB patients who had at least six months of unsuccessful anti-tuberculous treatment. The study revealed that prevalence of MDR-TB was high of resistance for reserve drugs (Ethionamide, Kanamycin and/or Ofloxacin) in patients who never had these drugs in their earlier treatment schedules suggest the possibility of emerging spontaneous drug resistant mutants.

SECTION 2.3.2: CRITICAL AND SCIENTIFIC REVIEWS RELATED TO RISK FACTORS OF MDR-TB

Critical Reviews

Researcher **(Marahatta SB, 2010)** in his study updated Multidrug-Resistant Tuberculosis burden and risk factors had revealed that prevalence of the drug resistant Tuberculosis has risen to the highest rate ever recorded in the history. Few researchers **(Atre SR, Chatterjee, 2010)** applied a study to find the risk factors associated with MDR-TB among Category I TB patients and found gender and co-morbid illness are important predictors of MDR-TB development.

Scientific Reviews

karthickeyan Duraisamy, et al (2014) conducted population based study to describe demographic, clinical, and risk characteristics associated with treatment outcomes for all patients with Multidrug-Resistant Tuberculosis among 179 patients who got registered in the Revised National Tuberculosis Control Programme in Kerala and assessed that outcomes among patients consuming alcohol remained poor.

Bhatt G, Vyas S, Trivedil K (2012) conducted a study to assess the socio demographic profile, housing environment, health-seeking behaviour, present and past history regarding treatment of MDR-TB by the cross sectional design among 81 patients with the age group of 16-45years.The study was carried out through personal interviews using pre-designed, pre-tested proforma and the findings revealed that most of the patients perceived some degree of improvement based on their factors following the treatment.

Dennis Falzon (2012) did a descriptive study to assess the Multidrug-resistant tuberculosis around the world with 88% of estimated MDR-TB cases occur in middle- or high-income countries, and 60% occur in Brazil, China, India, the Russian Federation and South Africa and the findings reveals that although progress has been noted in the expansion of MDR-TB care, urgent efforts are required in order to provide wider access to diagnosis and treatment in most countries with the highest burden of MDR-TB.

Sachin R Atre, Desiree T.B. D'Souza, Tina S Vira, Anirvan Chatterjee, Nerges F Mistry (2011) conducted a study to assess the risk factors associated with

MDR-TB among Category I new sputum smear-positive cases, at the onset of therapy in an case control method among 514 patients in four selected wards of Mumbai. The data was collected through semi-structured interviews and drug susceptibility test results and the findings denote that these screening tools were useful for diagnostic and treatment facilities for MDR-TB.

Molly F Franke, et al (2011) performed a retrospective study review to identify risk factors for default from MDR-TB therapy and conducted home visits to assess mortality among patients who defaulted from such therapy with 671 patients and found that the proportion of patients who defaulted from MDR TB treatment was relatively low and the large proportion of patients who had culture-positive sputum at the time of treatment default underscores the public health importance of minimizing treatment default.

SECTION 2.3.3: CRITICAL AND SCIENTIFIC REVIEWS RELATED TO DIAGNOSTIC MEASURES OF MDR-TB

Many researchers **(Antonino Catanzaro, Timothy C Rodwell, Donald G Catanzaro, Richard S Garfein, Roberta L Jackson, Marva Seifert, 2015)** aimed to compare the performance of several recently developed assays for detecting multi and extensively drug-resistant tuberculosis in a large multinational field trial and evaluated that these assays provided the clinicians with timely detection of resistance to the drugs tested. Researchers **(Ling, Zwerling, Pai, 2010)** conducted meta-analysis study to screen patients at risk of drug-resistant TB and detected that Genotype MDTBR being an excellent accuracy for rifampicin resistance and suggested it as a rapid screening tool.

Indian researcher **(Susan E Dorman, 2011)** in her study observed for current tools and strategies for diagnosis of MDR-TB are inadequate specifically in settings with a high prevalence of HIV infection and denotes that there is a clear need for development, introduction and effective implementation of cost-effective new tools that contribute to improvement in patient centered outcomes. **(Giovanni, Alberto, Daniela, Madhukar, 2011)** studied current standards and challenges for the diagnosis of MDR-TB and XDR-TB with FAST Plaque-Response bacteriophage assay, Colorimetric redox indicator methods and microcolony method, these diagnostic options effectively addressed the threats of MDR-TB and XDR-TB.

Multiple researchers **(Pieter, Robin, Paul,2011; Helden, Murray, Thomas, 2010)** assessed for the rapid diagnosis for controlling Drug-susceptible and DR-TB in communities which signifies where they found drug-susceptibility testing being highly reliable and sensitive diagnostic tool to find out MDR-TB.

SECTION 2.3.4: CRITICAL AND SCIENTIFIC REVIEWS RELATED TO TREATMENT FOR MDR-TB

Critical Reviews

Researchers **(Kwok-Chiu, Wing-Wai, Chang, 2012)** conducted studies regarding management of difficult multidrug-resistant tuberculosis and extensively drug-resistant tuberculosis and they observed that preventive strategies include prompt diagnosis, DOTS strategy and drug-resistance programmes, also suggested immunotherapy may also have a role in the future**.**

Multiple researchers **(Falzon ., et al, 2010; Blanc., et al, 2011)** analysed on the production of guidelines for the programmatic management of drug-resistant tuberculosis and recommended to support the wider use of rapid drug susceptibility testing for INZ and Rifampicin.

Scientific Reviews

Anita Rani Kansal , Rajinder Mahal , D. Behera , Neeta Singla (2014) study was undertaken to analyse the outcomes of MDR-TB patients treated at the Tuberculosis Research Centre, among 600 patients in Chennai and outcomes of this small group of MDR-TB patients treated with the RNTCP's STR is encouraging in this setting. Close attention needs to be paid to ensure adherence, and to the timely recognition and treatment of ADRs

Ibrahim I Elmahallawy et al (2012) conducted a study to assess treatment outcomes among 200 patients with MDR-TB in an retrospective design in Abbassia Chest Hospital. The findings revealed that successful treatment could be achieved in 66% of MDR-TB patients.

Shama D Ahuja, et al (2012) conducted a Meta analysis among 32 patients to identify studies reporting the treatment outcomes of microbiologically confirmed MDR-TB. The findings revealed that the success and the survival rate are improved in MDR-TB treatment with the use of Fluoroquinolones, Ethionamide or Prothionamide. The recommendation is to optimize MDR-TB treatment.

Evans Sagwa (2012) conducted the study on the burden of adverse events during treatment of drug-resistant tuberculosis in Namibia**.** The objective of this study was to assess the prevalence, profile and outcome of adverse events (AEs) associated with treatment of DR-TB and to explore possible influences of HIV disease on the occurrence of adverse events. The findings are adverse events of varying severity are common during treatment of DR-TB, particularly in the intensive phase of therapy.

Atun RA, Lebcir R, Drobniewski F, Coker RJ (2010) conducted a study to determine the impact of an effective programme of Multidrug-Resistant Tuberculosis control on a population that is witnessing an explosive HIV epidemic among injecting drug users using 2000 patients in Tamil Nadu where the study proves that prevalence of MDR-TB is already high as the HIV epidemic matures then the impact of MDRTB grows substantially if MDRTB control strategies are ineffective.

SECTION 2.3.5: CRITICAL AND SCIENTIFIC REVIEWS RELATED TO KNOWLEDGE AND ATTITUDE REGARDING PREVENTION OF MDR-TB

Critical Reviews

Researchers **(Isara, Akpodiete, 2015)** conducted cross-sectional study on concerning about the knowledge of MDR-TB among health care workers and patients in Southern Nigeria, datas were collected using a structured interviews administered questionnaire and found that there was lack of knowledge for both HCW's and patients regarding MDR-TB. Indian researchers **(kansal Anita Rani, Mahal Rajinder, Behera, Sarin Rohit, 2014)** conducted a study to assess learning need, knowledge and attitude of nurses regarding MDR-TB care under RNTCP and evaluated the factors with three different tools and found that demographic variables did not affect the attitude score except qualification, and need to improve view on XDR-TB.

(Jango Bati, Mengistu Legesse, Girmay Medhin, 2013) did a community-based cross sectional study to assess the level of Knowledge, attitude and practices about MDR-TB in Itang special district using interviewed pre-tested questionnaire and interpreted that majority of the study participants had no correct information about the causative factor of MDR-TB and the main symptoms.

Few researchers **(Farley, Tudor, Mphahlele, Franz, Perrin, Dorman, 2012)** conducted operational evaluations of infection control in drug-resistant TB settings at a national level using structured interviews with key informants and demonstrated that they need to improve and standardize infection control infrastructure. **(Omotayo David, Adebanjo, 2011)** investigated the knowledge, attitudes and practices of healthcare professionals about prevention and control of MDR-TB at Lesotho hospital by means of a semi-administered questionnaire. The findings of the study showed that the attitude of respondents towards patients suffering from MDR-TB did not influence their practices.

Scientific Reviews

Kar M, Logaraj M (2011) conducted a cross-sectional study to assess the awareness, attitude and treatment seeking behavior regarding Tuberculosis. Out of 1985 people, 56% had heard about Tuberculosis but 80% were not aware of the cause and mode of spread of Tuberculosis among the people of rural Tamil Nadu. The result shows that only 34% of people were aware of the treatment for Tuberculosis as free of cost.

SUMMARY

This chapter reveals that the risk factors were been the major component for the prevalence of MDR-TB and comparing with various studies indicates that the mortality and the morbidity rate of MDR-TB can be reduced by promoting the knowledge through various educational resources.

RESEARCH METHODOLOGY

Research Methodology is a research designed to develop or refine methods of obtaining, organizing or analyzing date. **(Denise .F. Polit and Cheryl. Tatano Beck)**

This chapter explains the methodology adopted to assess the effectiveness Self Care Module on knowledge and attitude regarding prevention of Multidrug-Resistant Tuberculosis (MDR-TB) among Tuberculosis (TB) patients .The phases of the study includes research design, variables, setting, population, sample and sample size, criteria for sample selection, sampling technique, description of the tool, content validity and reliability of the tool, pilot study, data collection procedure and plan for data analysis.

3.1 RESEARCH APPROACH

The quantitative research approach was used in this study.

3.2 RESEARCH DESIGN

The research design used in this study was quasi experimental, equivalent control group design.

<table>
<tr><th>GROUP</th><th>PRE TEST(O1)</th><th>INTERVENTION (X)
(On the day of pretest)</th><th>POST TEST(O2)
(At the end of 7th day)</th></tr>
<tr><td>Experimental group</td><td rowspan="2">Level of knowledge and attitude regarding prevention of MDR-TB by using structured interview schedule and 4 point Likert scale respectively.</td><td>Self Care Module regarding prevention of MDR-TB among Tuberculosis patients, administered through
• Education about MDR-TB
• Video show on preventive measures of MDR-TB
• Reinforcement on overview of MDR-TB through Pictorial booklet</td><td rowspan="2">• Level of knowledge and attitude regarding prevention of MDR-TB by using structured interview schedule and 4 point Likert scale respectively
• Administration of Self Care Module</td></tr>
<tr><td>Control group</td><td>Followed centre routine
General information regarding TB and its treatment</td></tr>
</table>

3.3 VARIABLES

3.3.1 Independent Variable

The independent variable in the study was Self Care Module

3.3.2 Dependent Variable

The dependent variable in this study was knowledge and attitude regarding prevention of MDR-TB among TB patients.

3.3.3 Extraneous Variables

Age, gender, education, occupation, type of family, area of residence, family history of Tuberculosis and chronicity of disease.

3.4 SETTING OF THE STUDY

The study was conducted at District Tuberculosis Centre, Karayanchavadi, Chennai. This is a complete Government controlled Primary Health Centre with only Outpatient service and they cover 14 rural and semi-urban areas with the population of 2,800 peoples. The services available are Directly Observed treatment Short Course Therapy (Monday to Saturday), Integrated Counseling and Testing Centre (on Tuesday's), lab and microbiology (from Monday to Saturday). Among this the treatment population comprises of 130 Pulmonary Tuberculosis patients, 10 Extra pulmonary and 5 MDR-TB patients. The hospital routine been followed were general education on Acquired Immunodeficiency Syndrome and Tuberculosis with complications.

3.5 POPULATION

3.5.1 Target population

All the patients medically diagnosed with Tuberculosis confirmed either in their sputum smears/X-ray/scan/biopsy

3.5.2 Accessible population

Patients medically diagnosed with Tuberculosis, who fulfilled the inclusive criteria at District Tuberculosis Centre, Chennai.

3.6 SAMPLE

The Tuberculosis patients who fulfilled the inclusion criteria were the samples of the study.

3.7 SAMPLE SIZE

Sample size comprised of 60 Tuberculosis patients, 30 each in experimental and control group who fulfilled the inclusion criteria.

3.8 CRITERIA FOR SAMPLE SELECTION

3.8.1 Inclusion criteria

Tuberculosis patients who

- are willing to participate in the study
- are in the age group between 20 -70 years
- can understand English or Tamil
- is under DOTS therapy
- are with Pulmonary and Extra-pulmonary Tuberculosis
- are with co-morbid illness of HIV, Diabetes Mellitus and Cancer only

3.8.2 Exclusion criteria

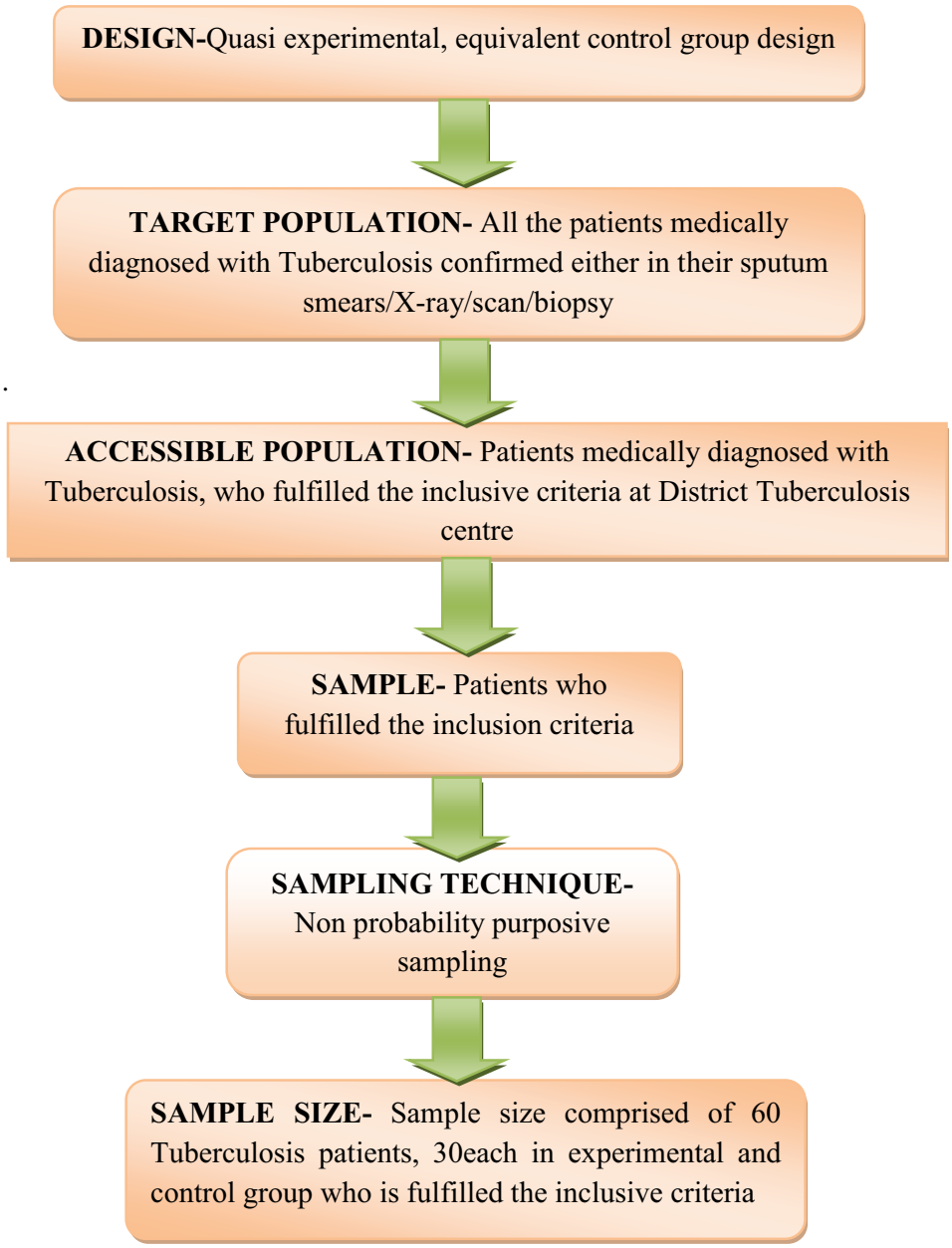
Tuberculosis patients who

- are with visual and hearing impairment and mentally challenged
- have attended any programme on prevention of MDR-TB within 6 months
- are with MDR-TB

3.9 SAMPLING TECHNIQUE

The patients diagnosed with tuberculosis, who fulfilled the inclusion criteria were selected by non probability purposive sampling technique. The patients who received DOTS therapy on Monday, Wednesday and Friday were selected as experimental group and Tuesday and Thursday patients were in control group.

3.9.1 SCHEMATIC REPRESENTATION OF SAMPLING



3.10 DEVELOPMENT AND DESCRIPTION OF THE TOOL

The tool constructed for this study has two parts

3.10.1 Data Collection Tool

It consists of three sections

Section A- Demographic variables

Demographic variables consisted of age, gender, educational status, occupational status, type of family, area of residence, family history of Tuberculosis, chronicity of disease, health care resources, personal habits and co-morbid illness.

Section B-Assessment of knowledge

This section consists of structured interview schedule to assess the level of knowledge.

Structured interview schedule which consisted of 20 multiple choice questions and categorized into 2 components about the disease condition (meaning, epidemiology, risk factors, causes, signs and symptoms, diagnosis, complication) including treatment and preventive measures of MDR-TB

Components	Questions
Disease condition	12
Treatment and prevention	8

Scoring and interpretation

The correct answer was given '1' mark and wrong answer was given '0'mark. The raw score was converted into percentage to interpret the level of knowledge, the level of knowledge was categorized as;

Score	Interpretation
75-100%	Adequate knowledge
51-74%	Moderately adequate knowledge
≤50%	Inadequate knowledge

Section C: **Assessment of attitude**

4 point Likert scale consisting of 10 statements was used to assess the attitude regarding prevention of MDR-TB among Tuberculosis patients. Out of 10 statements 5 were positive and 5 negatively worded statements. The raw score was converted into percentage to interpret the level of attitude.

Questions	Strongly agree	Agree	Strongly disagree	Disagree
Positive statements	**4**	**3**	**2**	**1**
Negative statements	**1**	**2**	**3**	**4**

Scoring Key

Percentage	Level of attitude
≤50%	Unfavourable attitude
51-74%	Moderately favourable attitude
75-100%	Favourable attitude

3.10.2 Part b-Intervention tool

The intervention was provided as follows;

- Preliminary Assessment-Demographic variables, Structured interview schedule and 4 point Likert scale
- Group-Tuberculosis patients under 20-70 years of age
- Venue-District Tuberculosis centre (Waiting hall)
- Time-8AM to12PM (1 month period of May 2015)

The intervention tool consisted of,

- Education- Lecture cum discussion on MDR-TB (The disease condition - meaning, epidemiology, risk factors, causes, signs and symptoms, diagnosis, complication including treatment and preventive measures of MDR-TB)
- Video show on preventive measures of MDR-TB (Hygienic practices-Respiratory hygiene/cough etiquette, techniques to wear mask, steps in collecting the sputum

and hygiene, hand washing technique; Household hygiene; MDR-TB and HIV; MDR-TB and Diabetes; Medication; Regular follow up)

- Pictorial Booklet with the overview of MDR-TB (meaning, epidemiology, risk factors, causes, signs and symptoms, diagnosis, complication including treatment and preventive measures of MDR-TB)

3.11 CONTENT VALIDITY

The content validity of the data collection tool and intervention tool was obtained from the following field of expertise,

- Pulmonologist - 1
- Medical Surgical Nursing - 3

All the experts had their consensus and then the tool was finalized.

3.12 ETHICAL CONSIDERATION

The study was approved by **Institution Ethical Review Board (IERB)** held on December 2014 by **International Centre for Collaborative Research (ICCR) committee**, Omayal Achi College of Nursing.

The investigator considered and followed the principles while proceeding the research.

A.BENEFICENCE

a) The right to freedom from harm and discomfort

The study was highly beneficial for the samples (Tuberculosis patients) as it enhanced the knowledge and attitude on MDR-TB.

b) The right to protection from exploitation

The investigator explained the procedure and ensured that none of the samples would be exploited or denied fair treatment.

B.RESPECT FOR HUMAN DIGNITY

a) The right to self determination

The investigator gave full freedom to the samples to decide voluntarily to withdraw from the study and right to ask questions.

b) The right to full disclosure

The investigator described the nature of the study and obtained oral and written consent from the samples and covert data collection had been followed.

C.JUSTICE

a) The right to fair treatment

The investigator selected the study participants based on the research requirements, and followed centre routine after the pre test and after the completion of post test the intervention was also given for the control group samples.

b) The right to privacy

The investigator maintained the samples privacy by following covert entities throughout the study.

D.CONFIDENTIALITY

The researcher maintained confidentiality in the data provided by the study samples with an identification number.

3.13 RELIABILITY OF THE TOOL

Variable	Method	Value	Inference
Knowledge (Structured interview schedule)	Test-retest method	"r"=0.92	Highly reliable
Attitude (4 point Likert scale)	Split half method	"r"= 0.90	Highly reliable

3.14 PILOT STUDY

The pilot study is a trial run preparation for the main study. The pilot study was planned and conducted after a research proposal presentation approval by the Ethical committee ICCR and nursing experts of Omayal Achi College of Nursing. Setting permission had been obtained from the Regional Tuberculosis Officer. Pilot study was conducted in the month of May 2015, at District Tuberculosis Centre with 10

tuberculosis patients, who fulfilled the inclusive criteria were selected by non-probability purposive sampling technique to conduct the pre-experimental study.

A brief explanation was given regarding the purpose and benefits of the study and written consent was obtained from the samples. The data collection was carried out by assessing the pre test level of knowledge and attitude using structured interview schedule and 4 point Likert scale. Then the investigator administered Self Care Module that is education on prevention of MDR-TB through PPT, video show for 45 minutes of about 5-7 patients in a group and a Pictorial booklet had been given to overview and reinforce about MDR-TB to the Tuberculosis patient.

The post test was conducted after 7 days. The findings gave the evidence that the tool was reliable and practicable to implement in the main study. To prove the effectiveness of Self Care Module by comparing the two groups, the pre experimental design was changed as quasi-experimental for the main study.

3.15 PROCEDURE FOR DATA COLLECTION

The main study was conducted after obtaining formal permission from the Principal, Omayal Achi College of Nursing. Ethical committee clearance was obtained from the International Centre for Collaborative Research (ICCR) and research setting permission obtained from the Deputy Director of District Tuberculosis Centre, Karayanchavadi**,** Chennai**.**

The investigator selected 60 samples using non probability purposive sampling technique from District Tuberculosis Centre, Karayanchavadi, Chennai. The nurse investigator met the study samples together in the waiting room and gave introduction about self and the study. After giving brief introduction and explanation about the study to the samples, the data was collected from each individual. Confidentiality was strictly maintained during the process of data collection.

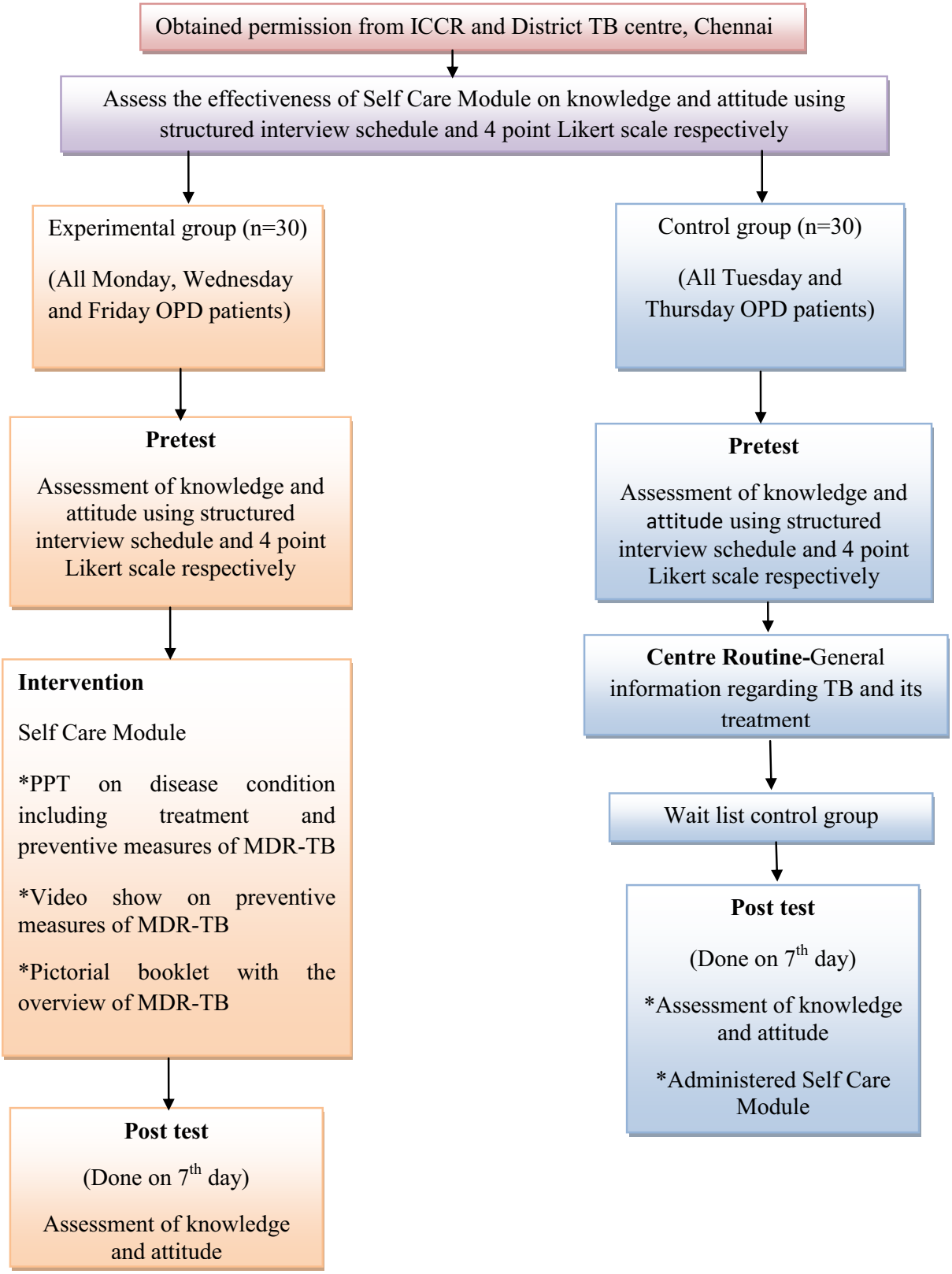
Tuberculosis patients who are attending OPD on Monday, Wednesday and Friday were selected as experimental group and those who are attending Tuesday and Thursday were in control group.

The participants were made to sit comfortably in a well ventilated waiting hall. First for the experimental group the investigator assessed the pre test level of knowledge and attitude using structured interview schedule and 4 point Likert scale respectively.

After the pre test the investigator administered Self Care Module on prevention of MDR-TB which consists of (the meaning, epidemiology, risk factors, causes, signs and symptoms, treatment, complication and preventive measures of MDR-TB), lecture cum discussion on MDR-TB including video show on prevention of MDR-TB, and distributed Pictorial Booklet regarding MDR-TB to reinforce their level of knowledge and attitude. It took about 45 minutes to 1 hour for administering the intervention.

On the seventh day, the investigator conducted the post test using the same structured interview schedule and 4 point Likert scale. Similarly for the control group, pre test and the post test was conducted and followed the hospital routine by providing information regarding tuberculosis and its treatment. The investigator administered the Self Care Module on the 7^{th} day after post test.

3.15.1 SCHEMATIC REPRESENTATION FOR DATA COLLECTION PROCEDURE



3.15 PLAN FOR DATA ANALYSIS

Data was analyzed by using both descriptive and inferential statistics.

3.16.1 Descriptive Statistics

1. Frequency and percentage distribution used to analyze the demographic variables of the Tuberculosis patients
2. Mean, standard deviation used to analyze the pre and post level of knowledge and attitude among experimental and control group

3.16.2 Inferential Statistics

1. Paired and unpaired 't' test used to compare the pre and post test level of knowledge and attitude regarding prevention of MDR-TB among and between the experimental and control group
2. Correlation co-efficient to find out the relationship between the post test level of knowledge and attitude in the experimental group
3. ANOVA gain score with Chi square test used to associate the selected demographic variables with the mean difference level of knowledge and attitude score in the experimental group

DATA ANALYSIS AND INTERPRETATION

Data analysis refers to the process of organizing and synthesizing the data in such a way that the research question can be answered and hypothesis tested **(Polit and Hungler, 2010).**

This chapter deals with the analysis and interpretation of the data to assess the effectiveness of Self Care Module on knowledge and attitude regarding prevention of Multidrug-Resistant Tuberculosis (MDR-TB) among 60 Tuberculosis (TB) patients at selected setting, Chennai.

The collected data was grouped and analyzed using descriptive and inferential statistics, and the results are presented under the following sections.

ORGANIZATION OF THE DATA

SECTION 4.1: Description of demographic variables of Tuberculosis patients in the experimental and control group

SECTION 4.2: Assessment and comparison of pre and the post test level of knowledge and attitude regarding prevention of MDR-TB among the experimental and control group

SECTION 4.3: Effectiveness of Self Care Module on knowledge and attitude regarding prevention of MDR **-**TB between the experimental and control group

SECTION 4.4: Correlation of the post test level of knowledge with attitude score regarding prevention of MDR-TB in the experimental and control group

SECTION 4.5: Association of selected demographic variables with the mean differed level of knowledge and attitude regarding prevention of MDR-TB in the experimental group

SECTION 4.1: DESCRIPTION OF DEMOGRAPHIC VARIABLES OF TUBERCULOSIS PATIENTS IN EXPERIMENTAL AND CONTROL GROUP

TABLE 4.1.1: Frequency and percentage distribution of selected demographic variables of Tuberculosis patients such as age in years, gender and religion in experimental and control group.

N=60

S.No	Demographic variables	Experimental Group n=30		Control Group n=30	
		No	%	No	%
1.	**Age in years**				
	20-29	9	30.0	3	10.0
	30-39	6	20.0	10	33.3
	40-49	7	23.3	6	20.0
	50-59	5	16.7	6	20.0
	60 and above	3	10.0	5	16.7
2.	**Gender**				
	Male	16	53.3	20	66.7
	Female	14	46.7	10	33.3
3.	**Religion**				
	Hindu	24	80.0	27	90.0
	Christian	6	20.0	3	10.0
	Muslim	0	0	0	0
	Others	0	0	0	0

In the experimental group, majority was under the age group of 20-29 years and 30-39 years in the control group.

In both the group most of them were males and Hindus.

Table 4.1.2: Frequency and percentage distribution of selected demographic variables of Tuberculosis patients such as marital status, educational status and occupation in experimental and control group.

N=60

S.No	Demographic variables	Experimental Group n=30		Control Group n=30	
		No.	%	No.	%
4.	**Marital status**				
	Married	22	73.3	25	83.3
	Unmarried	7	23.4	2	6.7
	Widow/Widower	1	3.3	3	10.0
	Divorced	0	0.00	0	0.00
5.	**Educational status**				
	Non Literate	5	16.7	3	10.0
	Primary school certificate	7	23.3	7	23.4
	Middle school certificate	8	26.7	6	20.0
	Higher school certificate	5	16.6	6	20.0
	Intermediate or post high school	2	6.7	4	13.3
	Graduate or Postgraduate	3	10.0	4	13.3
	Professors or Honours	0	0.00	0	0.00
6.	**Occupation**				
	Unemployed	11	36.7	5	16.7
	Unskilled worker	7	23.3	9	30.0
	Semi-skilled worker	4	13.3	6	20.0
	Skilled worker	2	6.7	7	23.3
	Clerical , shop-owner	2	6.7	1	3.3
	Semi-profession	4	13.3	2	6.7
	Profession	0	0.00	0	0.00

In both the group many were married, in the experimental group most of them had completed middle school certificate and were unemployed .Whereas in the control group most of them had primary school certificate as well as unskilled worker.

Table 4.1.3: Frequency and percentage distribution of selected demographic variables of Tuberculosis patients such as family income, type of family, area of residence and transmission of TB in experimental and control group.

N=60

S.No	Demographic variables	Experimental Group n=30		Control Group n=30	
		No	%	No	%
7.	**Family monthly income(in Rupees)**				
	≤1802	2	6.7	1	3.3
	1803-5386	12	40.0	10	33.4
	5387-8988	5	16.7	8	26.7
	8989-13494	7	23.3	3	10.0
	13495-17999	2	6.7	6	20.0
	18000-36016	1	3.3	1	3.3
	≥36017	1	3.3	1	3.3
8.	**Type of family**				
	Nuclear family	19	63.4	25	83.3
	Joint family	10	33.3	5	16.7
	Extended family	0	0.0	0	0.0
	Separated family	1	3.3	0	0.0
9.	**Area of residence**				
	Slum	0	0.0	0	0.0
	Rural	0	0.0	0	0.0
	Semi – urban	30	100.0	30	100.0
	Urban	0	00.0	0	0.0
10.	**Transmission of Tuberculosis**				
	The family	5	16.7	5	16.7
	The workplace	5	16.7	8	26.6
	The neighbours	3	10.0	5	16.7
	Uncertain	17	56.6	12	40.0

In both the group, majority of them earns Rs.1803-5386, belonged to a nuclear family, residing in a semi-urban area and the transmission of Tuberculosis was uncertain.

Table 4.1.4: Frequency and percentage distribution of selected demographic variables of Tuberculosis patients such as health care resources, personal habits and co-morbid illness in experimental and control group.

N=60

S.No	Demographic Variables	Experimental Group n=30		Control Group n=30	
		No	%	No	%
11.	**Chronicity of disease**				
	Less than 3 months	8	26.7	8	26.7
	3-6 months	18	60.0	18	60.0
	6 months to 1 year	4	13.3	4	13.3
12.	**Healthcare resources**				
	Hospital	0	0.0	0	0.0
	PHC	30	100.0	30	100.0
	Subcentre	0	0.0	0	0.0
	None	0	0.0	0	0.0
13.	**Personal habits- Alcohol/substance abuse**				
	Yes	7	23.3	6	20.0
	No	23	76.7	24	80.0
14.	**Co-morbid illnesses**				
a.	**HIV/AIDS**				
	Yes	0	0.0	0	0.0
	No	30	100.0	30	100.0
b.	**Diabetes**				
	Yes	3	10.0	5	16.7
	No	27	90.0	25	83.3
c.	**Cancer**				
	Yes	0	0.0	0	0.0
	No	30	100.0	30	100.0

Most of them had 3-6 months chronicity of disease and obtained healthcare resources from PHC in both the group. Alcohol/substance abuse habit, co-morbid illnesses of AIDS, diabetes and cancer was not similar in both the group.

SECTION 4.2: ASSESSMENT AND COMPARISON OF PRE AND THE POST TEST LEVEL OF KNOWLEDGE AND ATTITUDE REGARDING PREVENTION OF MDR-TB AMONG THE EXPERIMENTAL AND CONTROL GROUP

Table 4.2.1: Frequency and percentage distribution of pre and the post test level of knowledge regarding prevention of MDR-TB among experimental and control group

N=60

Group	Level of knowledge	Inadequate (≤50%)		Moderately adequate (51-74%)		Adequate (75-100%)	
		No	%	No	%	No	%
Experimental group n=30	Pretest	27	90.0	3	10.0	0	0.0
	Posttest	0	0.0	9	30.0	27	70.0
Control Group n=30	Pretest	26	86.7	4	14.3	0	0.0
	Posttest	23	76.7	7	23.3	0	0.0

The above table shows that there was no adequate level of knowledge during pre test among the experimental group and significant improvement was found regarding prevention of MDR-TB. Whereas in the control group no improvement in the level of knowledge in both pre and post test.

N=60

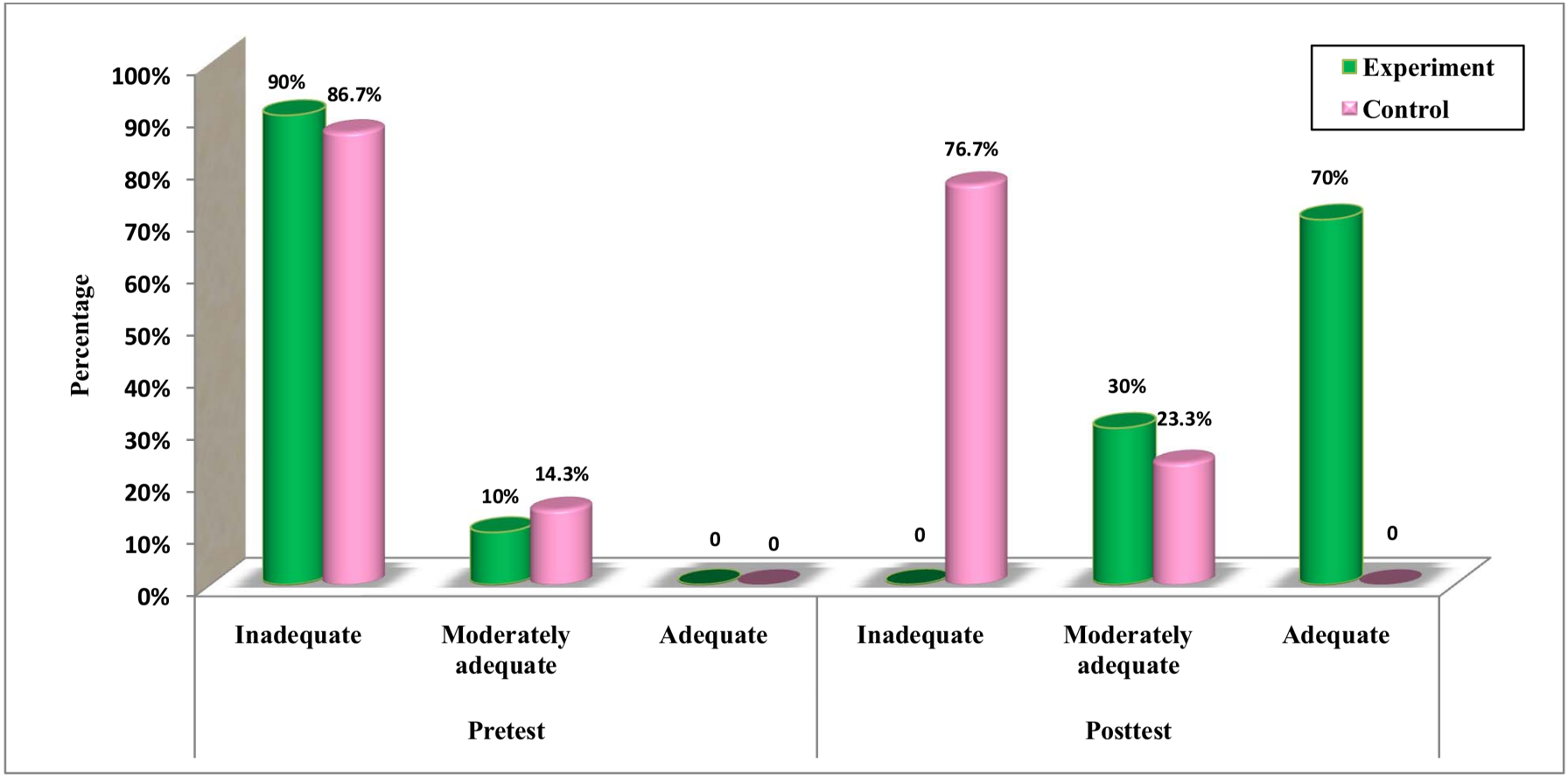


Fig 4.2.1: Frequency and percentage distribution of pre and the post test level of knowledge regarding prevention of MDR-TB among experimental and control group

Table 4.2.2: Frequency and percentage distribution of pre and the post test level of attitude regarding prevention of MDR-TB among the experimental and control group

N=60

Group	Level of attitude	Unfavourable (≤50%)		Moderately favourable (51-74%)		Favourable (75-100%)	
		No	%	No	%	No	%
Experimental group n=30	Pretest	26	86.7	4	14.3	0	0.0
	Posttest	0	0.0	10	33.3	20	66.7
Control Group n=30	Pretest	25	83.3	5	16.7	0	0.0
	Posttest	24	80.0	6	20.0	0	66.7

The above table shows that there was no improvement in the level of attitude regarding prevention of MDR-TB among the experimental group in the pre test and significant changes observed during the post test. There is no improvement in the level of attitude among the control group both in the pre and posttest.

N=60

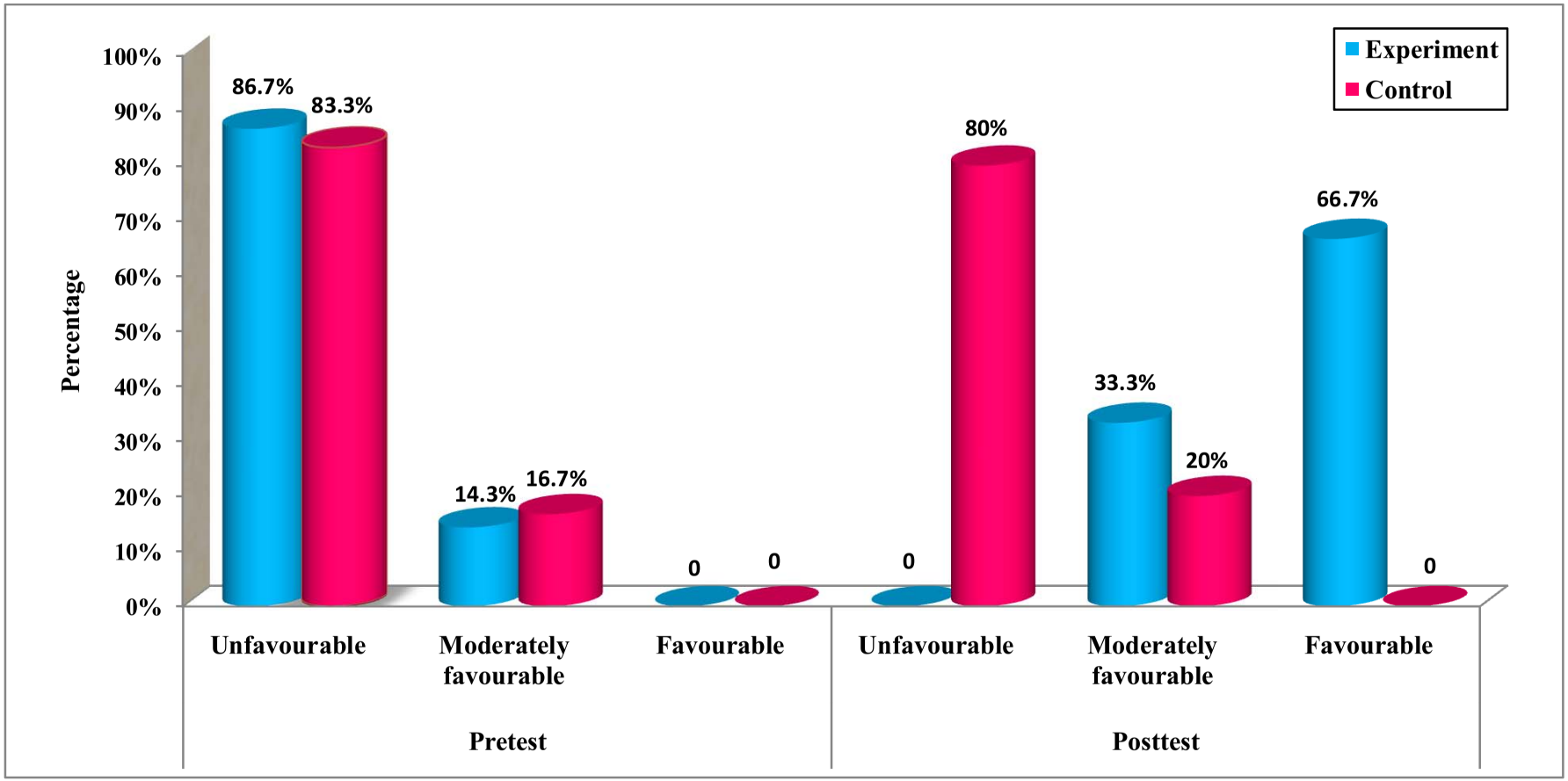


Fig 4.2.2: Frequency and percentage distribution of pre and the post test level of attitude regarding prevention of MDR-TB among experimental and control group

SECTION 4.3: EFFECTIVENESS OF SELF CARE MODULE ON KNOWLEDGE AND ATTITUDE REGARDING PREVENTION OF MDR -TB BETWEEN THE EXPERIMENTAL AND CONTROL GROUP

Table 4.3.1: Comparison of pretest and post test knowledge scores regarding prevention of MDR-TB among experimental and control group

N=60

Knowledge	Pretest		Post test		Paired 't' value
	Mean	S.D	Mean	S.D	
Experimental group n=30	7.73	1.87	16.23	1.56	t = 18.02 p= 0.001, **S*** **
Control group n=30	8.26	1.76	9.20	1.71	t = 1.81 p = 0.07, N.S

*** Very high significant at $p \leq 0.001$, ** Highly significant at $p \leq 0.01$,* Significant at $p \leq 0.05$, N.S = not significant

The above table shows that the comparison between pretest and post test knowledge scores regarding prevention of MDR-TB among experimental and control group. In the experimental group, the calculated paired 't' test value of 18.02 shows very high significant at $p \leq 0.001$ which indicates improvement in the level of knowledge with Self Care Module been effective when compared to the control group, which showed no significant difference in the paired 't' test.

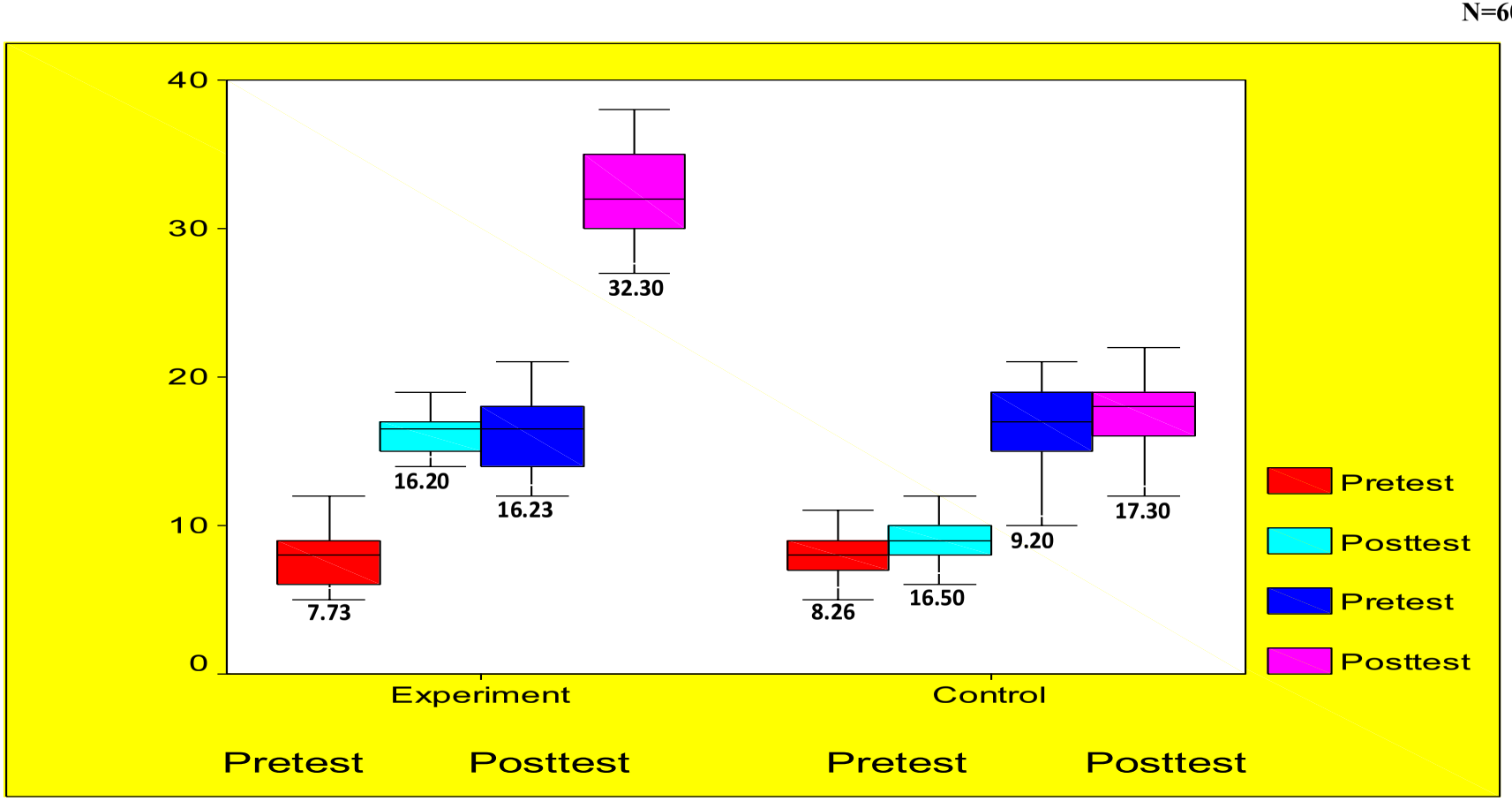


Fig.4.3.1: Comparison of pretest and post test knowledge and attitude score regarding prevention MDR-TB among experimental and control group

Table 4.3.2: Comparison of pretest and post test attitude scores regarding prevention of MDR-TB among experimental and control group.

N=60

Attitude	Pretest		Post test		Paired 't' value
	Mean	S.D	Mean	S.D	
Experimental group n=30	16.20	2.46	32.30	3.07	t = 24.33 p= 0.001, **S*** **
Control group n=30	16.50	3.06	17.30	3.22	t = 1.73 p = 0.09, N.S

*** Very high significant at p≤0.001, ** Highly significant at p≤0.01,* Significant at p≤0.05, N.S = not significant

The above table shows the comparison of pretest and post test attitude scores regarding prevention of MDR-TB among experimental and control group**.** The calculated paired't' test value was 24.33 shows very high statistical significance at p≤0.001 in the experimental group, whereas in the control group shows the non significance. This denotes that the Self Care Module was effective to enhance the level of attitude.

Table 4.3.3: Comparison of post test level of knowledge scores regarding prevention of MDR-TB between experimental and control group.

N=60

Level of knowledge	Mean	S.D	Unpaired 't' value
Experimental Group	16.23	1.56	t = 16.61 p = 0.001***
Control Group	9.20	1.71	

*** Very high significant at p≤0.001, ** Highly significant at p≤0.01,* Significant at p≤0.05, N.S = not significant

The above table depicts the comparison of post test level of knowledge scores regarding prevention of MDR-TB between experimental and control group. Where the calculated unpaired 't' value of t=16.61 shows high statistical significance at p<0.001. This shows that Self Care Module on MDR-TB was effective in improving the level of knowledge

Table 4.3.4: Comparison of post test level of attitude scores regarding prevention of MDR-TB between experimental and control group.

N=60

Level of attitude	Mean	S.D	Unpaired 't' value
Experimental Group	32.30	3.07	t = 18.42
Control Group	17.30	3.22	p = 0.001***

*** Very high significant at $p \leq 0.001$, ** Highly significant at $p \leq 0.01$,* Significant at $p \leq 0.05$, N.S = not significant

The above table shows the comparison of post test level of attitude scores regarding prevention of MDR-TB between experimental and control group. The calculated unpaired 't' value of t= 18.42 shows high statistical significance at $p<0.001$ indicated that Self Care Module was effective in improving the level of attitude.

SECTION 4.4: CORRELATION OF THE POST TEST LEVEL OF KNOWLEDGE WITH ATTITUDE SCORE REGARDING PREVENTION OF MDR-TB IN THE EXPERIMENTAL GROUP.

Table 4.4.1: Correlation of the post test level of knowledge with attitude score regarding prevention of MDR-TB in the experimental group.

N=30

Variable	Mean	S.D	'r' value
Knowledge	6.23	1.56	r = 0.52
Attitude	32.30	3.07	p = 0.001***

*** Very high significant at p≤0.001, ** Highly significant at p≤0.01,* Significant at p≤0.05, N.S = not significant

The above table shows the correlation of the post test level of knowledge with attitude score regarding prevention of MDR-TB in the experimental group depicts that the 'r' value of 0.52 which reveals there was a significant, moderate, positive correlation between the knowledge and attitude of TB patients. It means that when level of knowledge increases, their level of attitude also increases.

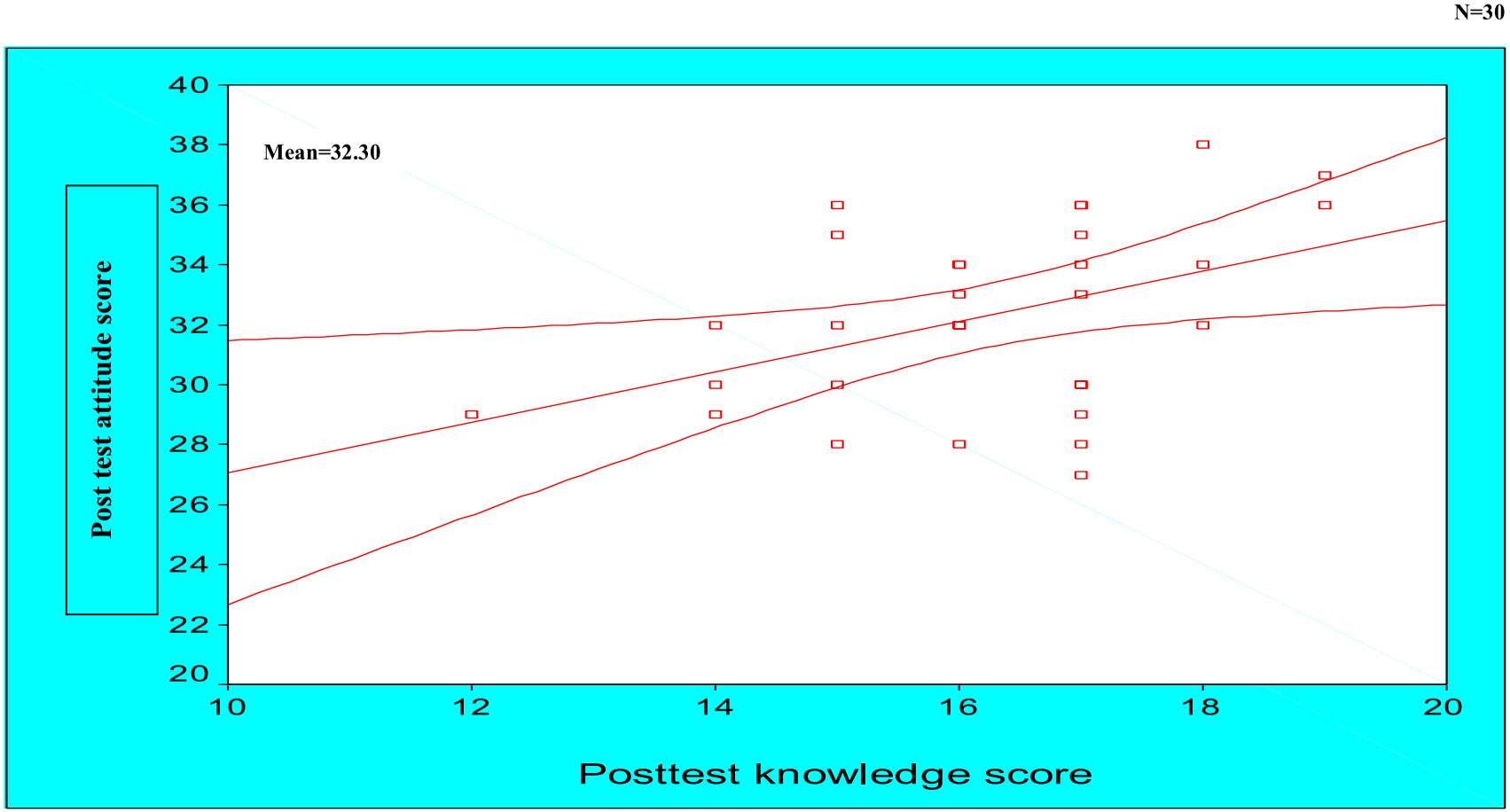


Fig 4.4.1: Correlation between the post test level of knowledge with attitude score regarding prevention of MDR-TB in the experimental group

Table 4.4.2: Correlation of the post test level of knowledge with attitude score regarding prevention of MDR-TB in the control group.

N=30

Variable	Mean	S.D	'r' value
Knowledge	16.50	3.06	r = 0.19
Attitude	17.30	3.22	p = 0.32 N.S

*** Very high significant at p≤0.001, ** Highly significant at p≤0.01,* Significant at p≤0.05, N.S = not significant

The above table shows the correlation of the post test level of knowledge with attitude score regarding prevention of MDR-TB in the control group with 'r' value of 0.19 which reveals poor positive correlation. It means knowledge and attitude had no improvement.

SECTION 4.5: ASSOCIATION OF SELECTED DEMOGRAPHIC VARIABLES WITH THE MEAN DIFFERED LEVEL OF KNOWLEDGE AND ATTITUDE REGARDING PREVENTION OF MDR-TB IN THE EXPERIMENTAL GROUP

Table 4.5.1: Association of selected demographic variables with the mean differed level of knowledge gain score regarding prevention of MDR-TB in the experimental group

N=30

S.No	Demographic Variables		Level of knowledge gain				Total	Chi-square test
			Below average(≤8.50)		Above average(>8.50)			
			N	%	n	%		
1.	Age (in years)	20 -29	7	77.8	2	22.2	9	χ^2=9.89 p=0.05*
		30 -39	4	66.7	2	33.3	6	
		40 -49	3	42.8	4	57.2	7	
		50 -59	1	20.0	4	80.0	5	
		> 60	0	0.0	3	100.0	3	
2.	Gender	Male	5	31.2	11	68.8	16	χ^2=4.82 p=0.03*
		Female	10	71.4	4	28.6	14	
3.	Educational status	Non-Literate	4	80.0	1	20.0	5	χ^2=12.17 p=0.05*
		Primary school certificate	6	85.7	1	14.3	7	
		Middle school certificate	4	50.0	4	50.0	8	
		Higher school certificate	1	20.0	4	80.0	5	
		Intermediate or post high school dip	0	0.0	2	100.0	2	
		Graduate or Postgraduate	0	0.0	3	100.0	3	

The above table shows the association of selected demographic variables with the mean differed level of knowledge gains core in the experimental group such as age, gender and educational status had moderate statistical significance which was confirmed using ANOVA gain score with chi-square test

N = 30

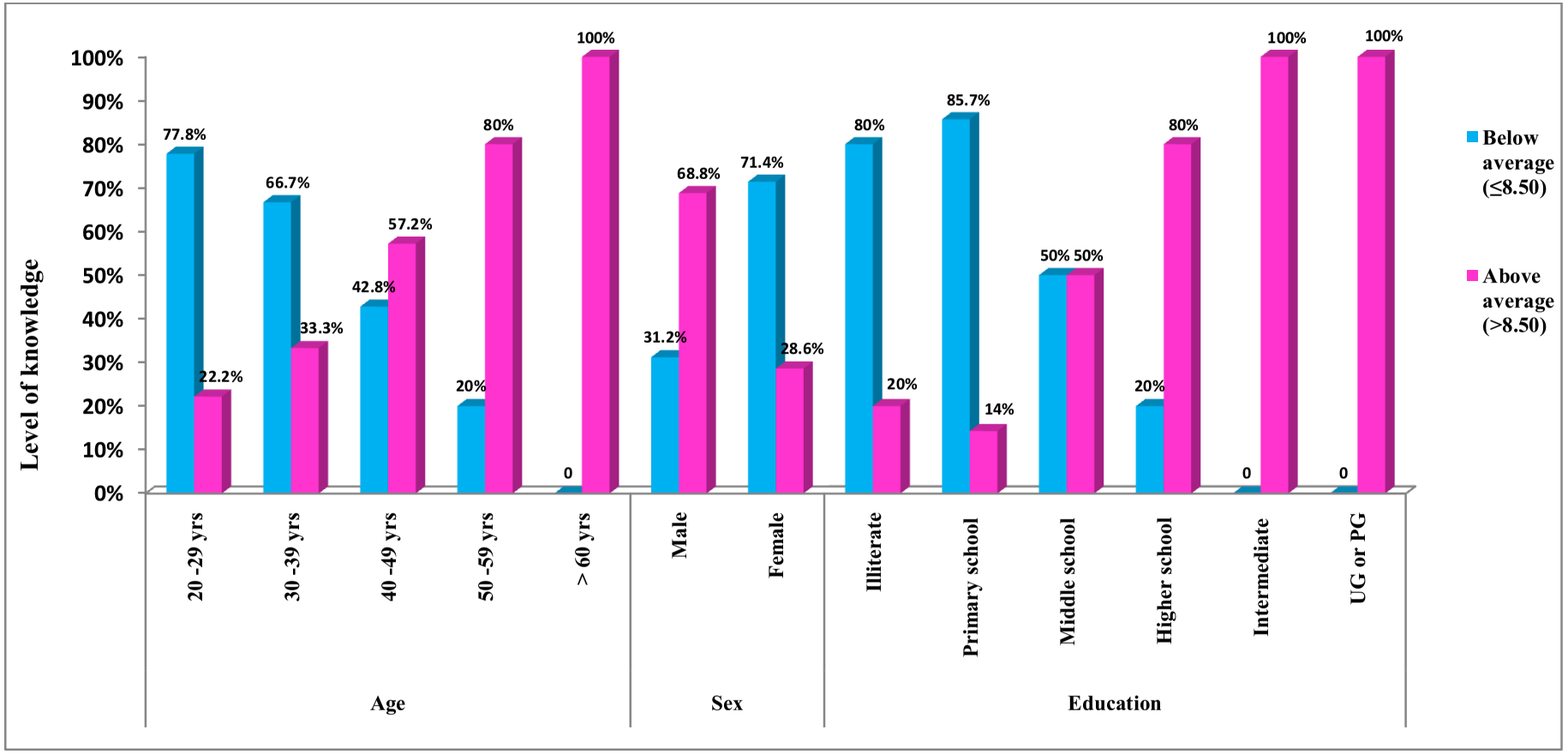


Fig 4.5.1: Association of selected demographic variables with the mean differed level of knowledge gain score regarding prevention of MDR-TB in the experimental group

Table 4.5.2: Association of selected demographic variables with the mean differed level of attitude gain score regarding prevention of MDR-TB in the experimental group

N=30

S.No.	Demographic Variables		Level of attitude gain score				Total	Chi square test
			Below average(≤16.10)		Above average(>16.10)			
			n	%	n	%		
1.	Age (in years)	20 -29	6	66.7	3	33.3	9	χ^2=9.65 p=0.05*
		30 -39	5	83.3	1	16.7	6	
		40 -49	2	28.6	5	71.4	7	
		50 -59	2	40.0	3	60.0	5	
		> 60	0	0.0	3	100.0	3	
2.	Gender	Male	5	31.2	11	68.8	16	χ^2=4.82 p=0.03*
		Female	10	71.4	4	28.6	14	
3.	Educational status	Non-Literate	5	100.0	0	0.0	5	χ^2=13.08 p=0.05*
		Primary school certificate	4	66.	2	33.3	7	
		Middle school certificate	4	50.0	4	50.0	8	
		Higher school certificate	1	20.0	4	80.0	5	
		Intermediate or post high school dip	0	0.0	2	100.0	2	
		Graduate or Postgraduate	0	0.0	3	100.0	3	

The above table shows that the selected demographic variables such as age, gender and educational status had moderate statistical significance with the mean differed level of attitude in the experimental group at $p< 0.5$ level.

N = 30

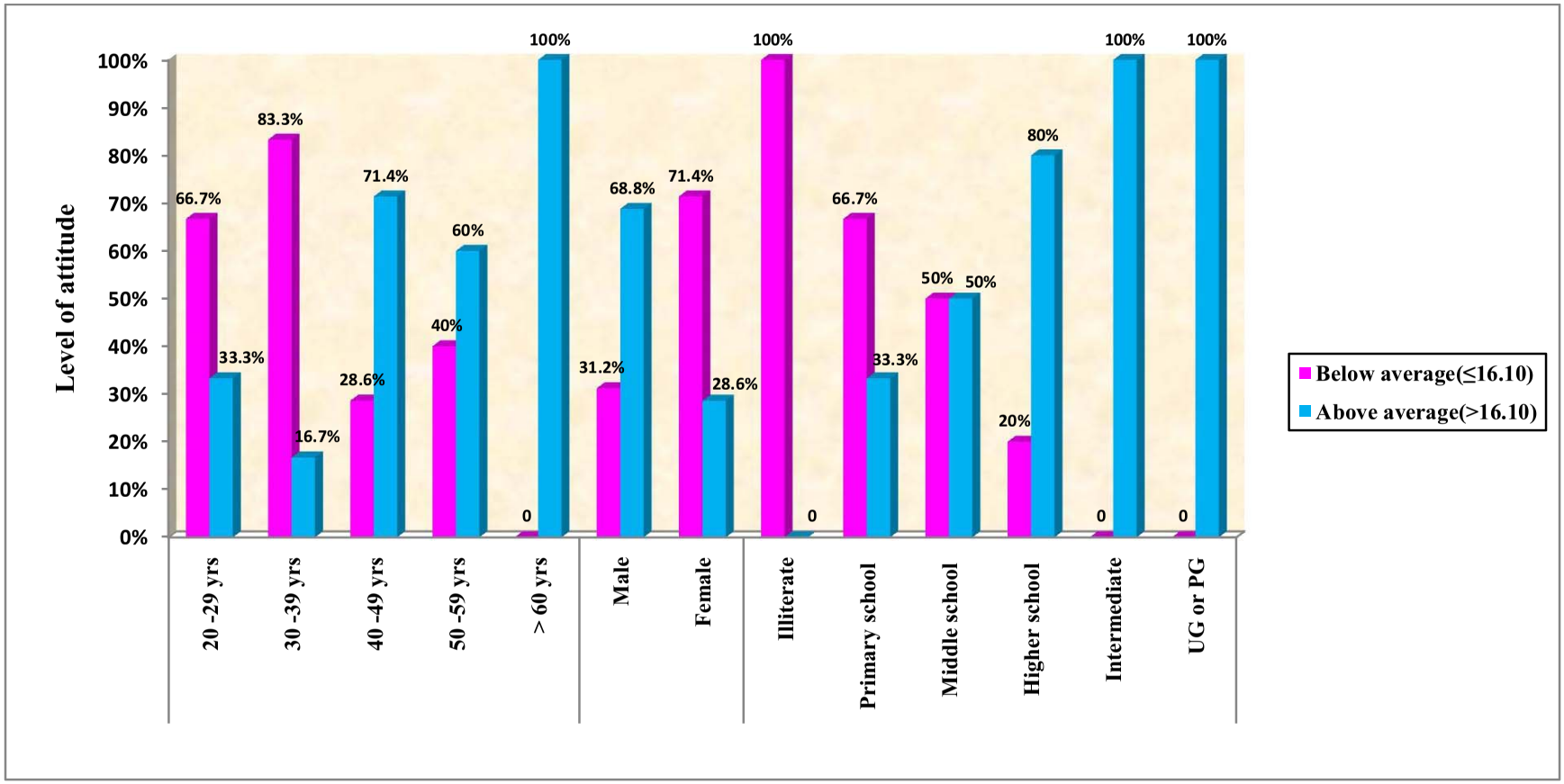


Fig 4.5.1 Association of selected demographic variables with the mean differed level of attitude gain score regarding prevention of MDR-TB in the experimental group

DISCUSSION

This chapter discusses about the analytical findings of the study based on the objectives. It is a quasi experimental study to assess the effectiveness of Self Care Module on knowledge and attitude regarding prevention of Multidrug-Resistant Tuberculosis (MDR-TB) among Tuberculosis (TB) patients at selected setting, Chennai.

5.1 The findings of the demographic variables of the Tuberculosis patients in the experimental and control group

The demographic variables of the Tuberculosis patients considered in this study was age in years, gender, religion, marital status, educational status, occupation, family income, type of family, area of residence, transmission of TB, health care resources, personal habits and co-morbid illness.

In the experimental group, most common was in the age group of 20-29 years, completed middle school certificate with unemployment and in the control group many were under 30-39 years completed primary school certificate and unskilled worker.

In both the group most of the patients were males and Hindu earns Rs.1803-5386, by belonged to nuclear family, resides in a semi-urban area with the transmission of TB was uncertain, 3-6 months chronicity of disease and obtained resources from PHC. Similarly in both the group, alcohol/substance abuse habit was similarly equal and co-morbid illnesses of AIDS, diabetes and cancer was not significant in both.

Indian researcher with evidence **Atre SR (2011)** suggested that certain data had been the contributing factor for developing MDR-TB; they are age group, education, occupation, history of smoking and Type 2 diabetes. Researcher **Issakidis (2010)** conducted a study and understood that TB with HIV co-infection patients may develop MDR-TB due to family caregivers being transverse to maintain mental and physical health of those patients by leading into treatment adherence.

To represent various aspects of the study, the investigator had adopted the concepts of Evelyn Adam Interpersonal Relationship Model.

5.2 The first objective was to assess and compare the pre and post level of knowledge and attitude regarding prevention of MDR-TB among experimental and control group

There was no adequate level of knowledge among TB patients during pre test whereas in the post test after administration of SCM had significant increase regarding the prevention of MDR-TB among the experimental group

But there is no improvement in the level of knowledge and attitude among the control group in pre and the post test.

Researchers **Bhatt G, Vyas S, Trivedil K (2012)** conducted a cross sectional study to assess the socio demographic profile, housing environment, health-seeking behaviour, present and past history regarding treatment of MDR-TB was carried out through personal interviews using pre-designed, pre-tested proforma and the findings revealed that most of the patients perceived some degree of improvement in their health based on their factors following the treatment.

5.3 The second objective was to assess the effectiveness of Self Care Module on knowledge and attitude regarding prevention of MDR-TB between the experimental and control group

Comparison of pretest and post test knowledge scores regarding prevention of MDR-TB among experimental and control group**,** the calculated paired 't' test value of 18.02 and 24.33 respectively that shows very high statistical significance at $p \leq 0.001$ among experimental group and the calculated unpaired 't' test value of 1.81and 1.73 indicates no statistical significance among control group.

Comparison of post test knowledge and attitude scores regarding prevention of MDR-TB between experimental and control group, the unpaired't' value 16.61and 18.42 shows high statistical significance at $p<0.001$ level.

The above findings show that Self Care Module was effective in improving the level of knowledge and attitude regarding prevention of MDR-TB in the experimental than the control group.

Hence the null hypothesis **NH_1** stated earlier that "**there is no significant difference in the post level of knowledge and attitude regarding prevention of MDR-TB between the experimental and control group at p<0.05 level" was rejected in experimental group and accepted in control group**.

5.4 The third objective was to correlate the post test level of knowledge with attitude score regarding prevention of MDR-TB in the experimental and control group

Correlation between the post test level of knowledge with attitude score regarding prevention of MDR-TB in the experimental group was calculated using Karl Pearson correlation coefficient with 'r' value of 0.52 which reveals that there was a significant moderate positive correlation between the level of knowledge and attitude among TB patient so knowledge increases their level of attitude also increases

Correlation between the post test level of knowledge with attitude score regarding prevention of MDR-TB in the control group calculated and found the 'r' value as 0.19 which reveals poor positive correlation between the knowledge and attitude among TB patients.

Hence the null hypothesis **NH_2** states that **"there is no significant relationship between the post level of knowledge and attitude regarding prevention of MDR-TB in the experimental and control group at p<0.05 level" rejected experimental group and accepted in control group**

5.5 Association of selected demographic variables with the mean differed level of knowledge and attitude score regarding prevention of MDR-TB in the experimental group

The selected demographic variables like age, gender and educational status had moderate significance with the mean differed level of knowledge and attitude than other variables in the experimental group.

Hence the null hypothesis **NH3** stated earlier that **"there is no significant association of selected demographic variables with the mean difference level of knowledge and attitude regarding prevention of MDR-TB in the experimental and control group at p<0.05 level" was rejected for age, gender and educational status in the experimental group and accepted for other selected demographic variables.**

SUMMARY, CONCLUSION, IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS

This chapter represents the summary, conclusion, implications, recommendations and limitations of the study.

6.1 SUMMARY

Multidrug- Resistant Tuberculosis (MDR-TB) is a major health problem that threatens TB patients as it is caused by bacteria that are resistant to first line anti-TB drugs such as Isoniazid (INH) and Rifampicin (RMP). In 2013, about 5% of TB cases were diagnosed to have MDR-TB. Most of the acquired MDR-TB is due to inappropriate treatment, improper prescription of treatment, non-compliance of treatment and scarcity of medicines. There are various methods to prevent MDR-TB such as rapid diagnosis and treatment of TB, completion of treatment, identifying and diagnosing HIV/AIDS patients as early as possible and identifying the causes that contracts TB. Thereby prevention can inhibit the prevalence of MDR-TB.

The purpose of the study was to assess the effectiveness of Self Care Module on knowledge and attitude regarding prevention of MDR-TB among TB patients. The findings reveal that there was a significant difference in the pretest and posttest knowledge and attitude regarding prevention of MDR-TB among TB patients.

The objectives of the study were

1. To assess and compare the pre and post test level of knowledge and attitude regarding prevention of MDR-TB among the experimental and control group.
2. To assess the effectiveness Self Care Module on knowledge and attitude regarding prevention of MDR-TB between the experimental and control group.
3. To correlate the post test level of knowledge with attitude score regarding prevention of MDR-TB in the experimental and control group.
4. To associate the selected demographic variables with the mean differed level of knowledge and attitude regarding prevention of MDR-TB in the experimental group.

The study was based on the assumptions that

1. Self Care Module may improve the knowledge and provide favourable attitude among Tuberculosis patients.
2. The Tuberculosis patients may have some knowledge and attitude on prevention of MDR-TB.

The null hypotheses formulated were

NH_1: There is no significant difference in the post test level of knowledge and attitude regarding prevention of MDR-TB between the experimental and control group at $p<0.05$ level.

NH_2: There is no significant relationship between the post test level of knowledge and attitude regarding prevention of MDR-TB in the experimental and control group at $p<0.05$ level.

NH_3: There is no significant association of selected demographic variables with the mean difference level of knowledge and attitude regarding prevention of MDR-TB in the experimental group at $p<0.05$ level.

The review of literature, practical experience and expert's guidance provided strong support for the study. The reviews also developed a basis for conceptual framework, aided to design the methodology and formulation of the tool.

To represent various aspects of the study, the investigator had adopted the concepts of Evelyn Adam Interpersonal Relationship Model.

The investigator had used a quasi experimental, equivalent control group design to assess the effectiveness of Self Care Module on knowledge and attitude regarding prevention of Multidrug-Resistant Tuberculosis (MDR-TB) among 60 Tuberculosis (TB) patients by using non probability purposive sampling technique.

The tool constructed for this study has two parts. The first part is data collection tool with three sections (demographic variables , assessment of knowledge and attitude) and the second part is intervention tool **(** Education **,** Video show and Pictorial booklet) **.**The collected data was analyzed and interpreted based on the objectives and null hypotheses by using descriptive and inferential statistics.

The major findings of the study revealed that,

The analysis regarding the post test level of knowledge indicates70% of the TB patients had adequate knowledge and 66.7% had favourable attitude regarding prevention of MDR-TB in the experimental group.

The correlation between the post test level of knowledge with attitude score regarding prevention of MDR-TB in the experimental group was calculated using Karl Pearson correlation coefficient with 'r' value of 0.52 which reveals significant, moderate, positive correlation. It means when knowledge increases their attitude also increases.

In the experimental group the TB patients showed a significant association with the demographic variables such as age, gender and educational status and gained knowledge and attitude than others.

This clearly indicates that Self Care Module had effectiveness in improving the knowledge and attitude regarding prevention of MDR-TB among TB patients.

6.2 CONCLUSION

The particular study was conducted to assess the effectiveness of Self Care Module on knowledge and attitude regarding prevention of MDR-TB among Tuberculosis (TB) patients. The findings of the study revealed that there was a significant difference in the pre test and post test level of knowledge and attitude regarding prevention of MDR-TB among Tuberculosis (TB) patients. Therefore the Self Care Module was found effective in improving the knowledge and attitude regarding prevention of MDR-TB.

6.3 IMPLICATIONS

The investigator has derived the following implications from the study, which is of vital concern in the field of nursing practice, nursing education, nursing administration and nursing research.

6.3.1 Nursing Practice

1. The nurse plays a essential role in building the knowledge and attitude on preventive aspects.

2. The intervention is cost effective, reliable and can be incorporated by the nurses in all the specialized hospitals in preventing MDR-TB.
3. The nurse should understand the need of motivating the caregivers to follow the booklet intervention for the promotion of the patients life.
4. The intervention module can be implemented in OPD and IPD department of various hospitals.

6.3.2 Nursing Education

1. The study enables the nurse educator to incorporate the findings in nursing curriculum with evidence based practice.
2. The nurses can acquire adequate knowledge by conducting continuing nursing education.

6.3.3 Nursing Administration

1. The nurse administrator can organize the training programme for the caregivers and other patients with TB illness for reducing the disease burden.
2. The nurse administrator can encourage the replication of the study with large samples.

6.3.4 Nursing Research

1. The findings of the study can be disseminated through conferences, seminars and by publishing in journals.
2. Nurse researcher should encourage the staff nurse to implement the research findings in the daily care of similar patients and bring out more scope to promote the health of the patients.

6.4 RECOMMENDATIONS

1. The investigator recommends to give the module to various TB centre/NGO's (Reach) /hospital through ICCR and Director of District TB centre
2. Similar study will be replicated on large sample to increase the validity and generalizability of the findings.
3. The similar study will be implemented to the Tuberculosis patient's caregivers to promote the quality of life.
4. The further study will be done for enhancing the knowledge on XDR-TB.

6.5 LIMITATIONS

1. The investigator found difficulty in obtaining the setting permission for the study
2. The investigator found difficulty to get nursing intervention related reviews both Indian as well as International.

6.6 PLAN FOR RESEARCH UTILIZATION

1. Self Care Module was planned to utilize in Omayal Achi Community health centre
2. The booklet is being used currently in District Tuberculosis Centre for the uncovered Tuberculosis patients by the healthcare professionals as recommended by the Director.
3. The Director of the centre planned to recommend the booklet education to other TB centre patients for improving their knowledge on prevention of MDR-TB

6.7 PLAN FOR RESEARCH DISSEMINATION

1. Scientific paper presentation in Conferences of various Colleges in Chennai.
2. Plan to publish the study in Journal of Nursing Research of Omayal Achi College of Nursing , Trained Nurses Association of India and Health Action journals, and British Journal of Nursing within 6 months period of time

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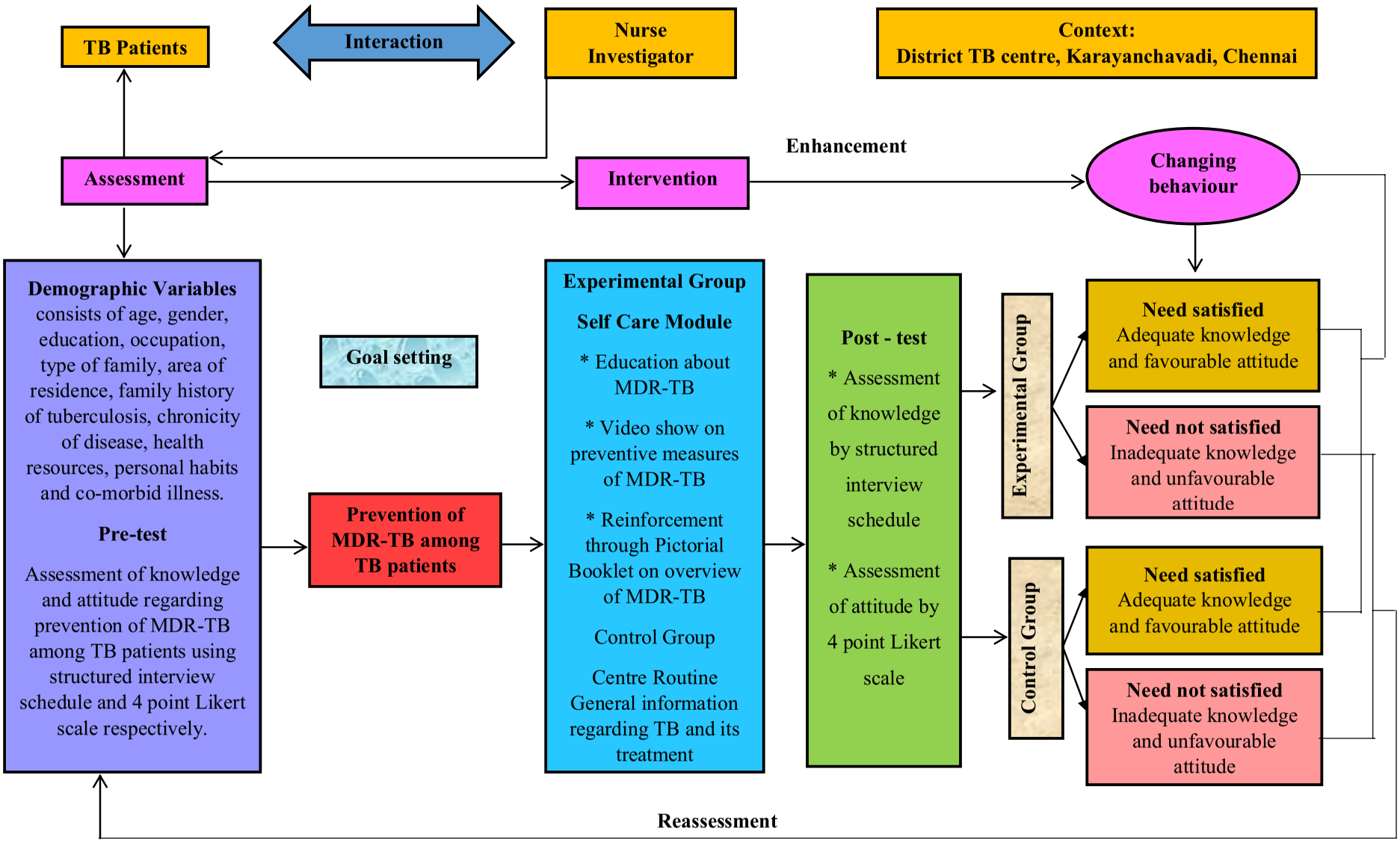

Fig. 1.9.1: CONCEPTUAL FRAMEWORK BASED ON EVELYN ADAM INTERPERSONAL RELATIONSHIP MODEL

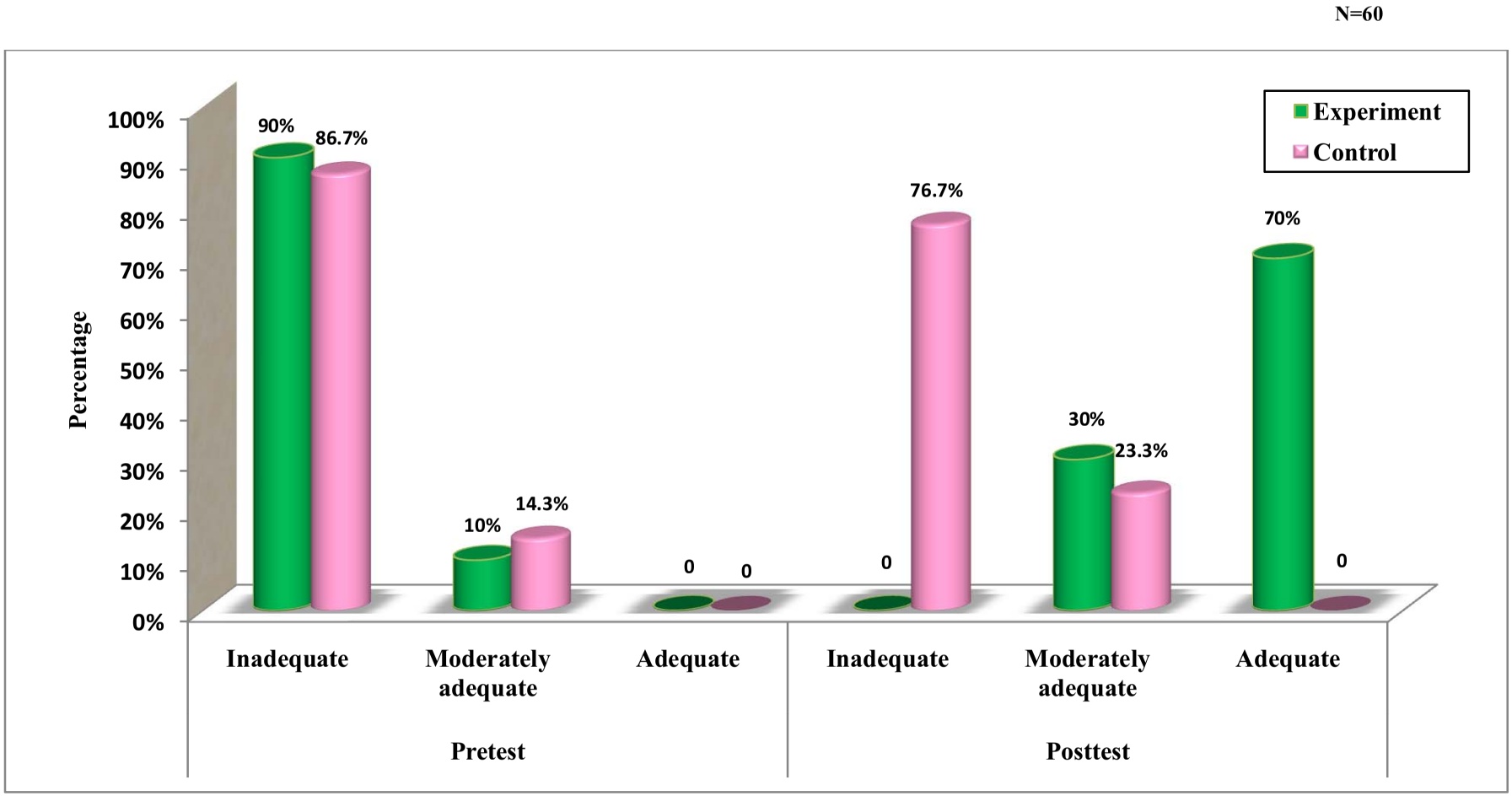

Fig 4.2.1: Frequency and percentage distribution of pre and the post test level of knowledge regarding prevention of MDR-TB among experimental and control group

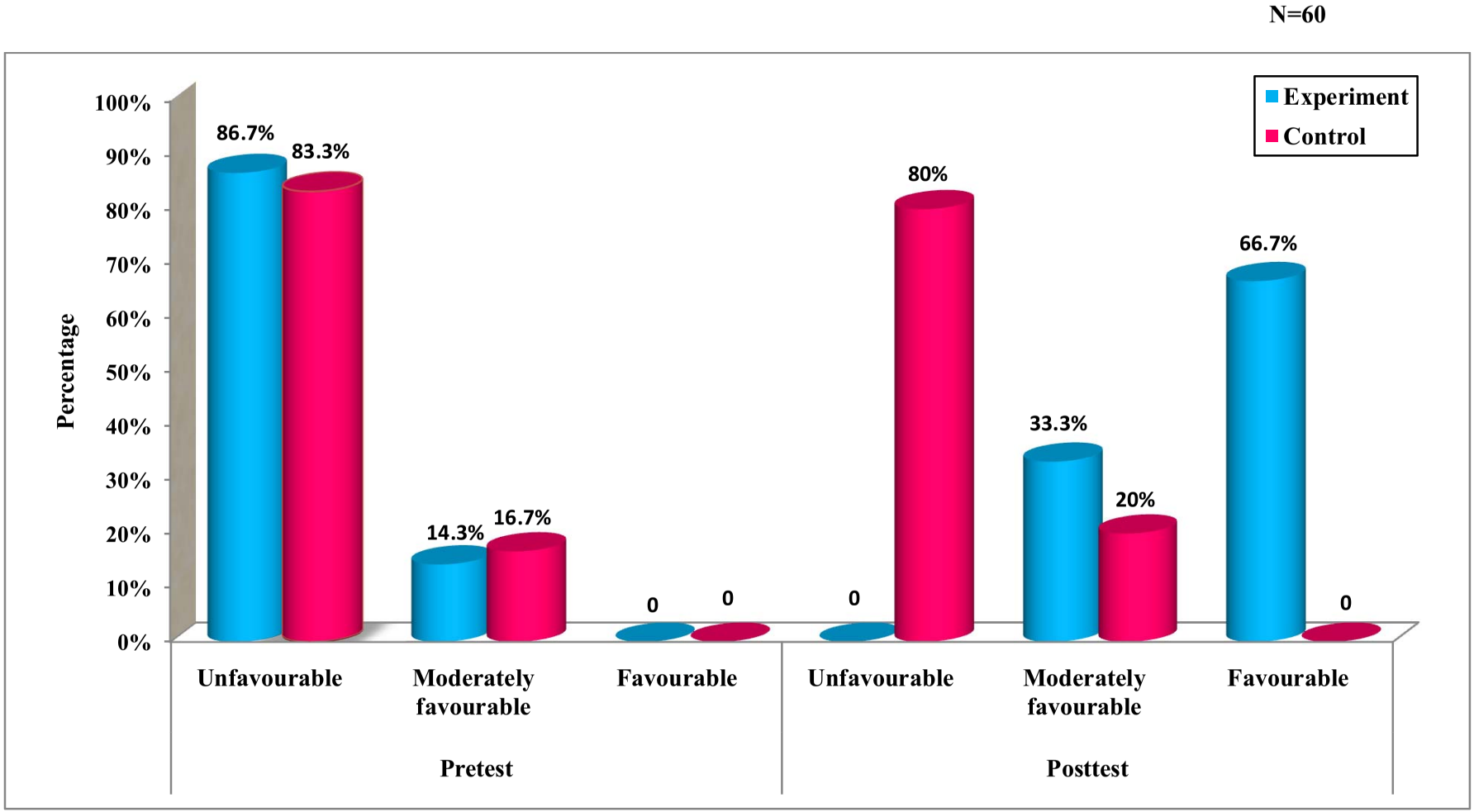

Fig 4.2.2: Frequency and percentage distribution of pre and the post test level of attitude regarding prevention of MDR-TB among experimental and control group

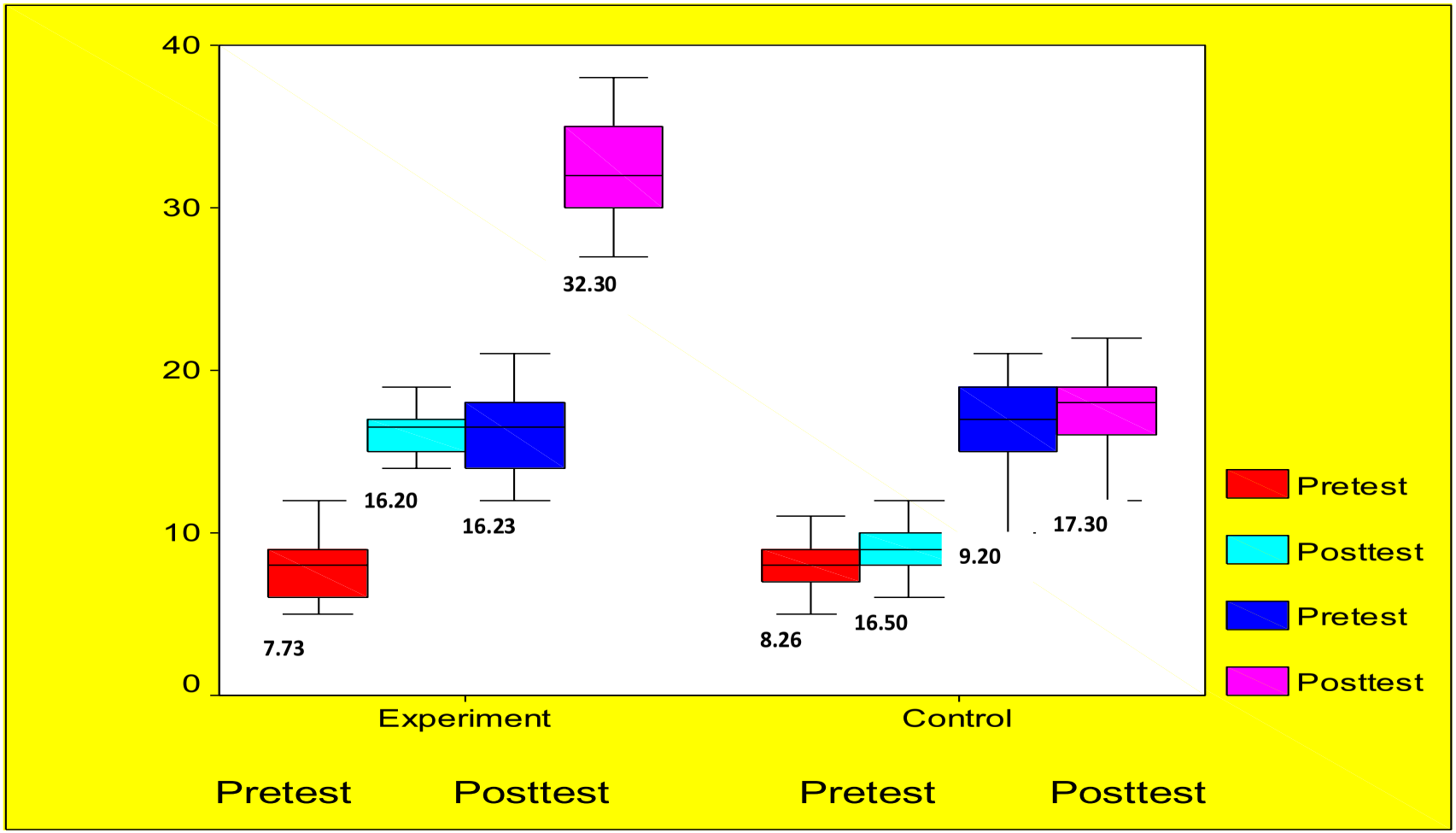

Fig.4.3.1: Comparison of pretest and post test knowledge and attitude score regarding prevention MDR-TB among experimental and control group

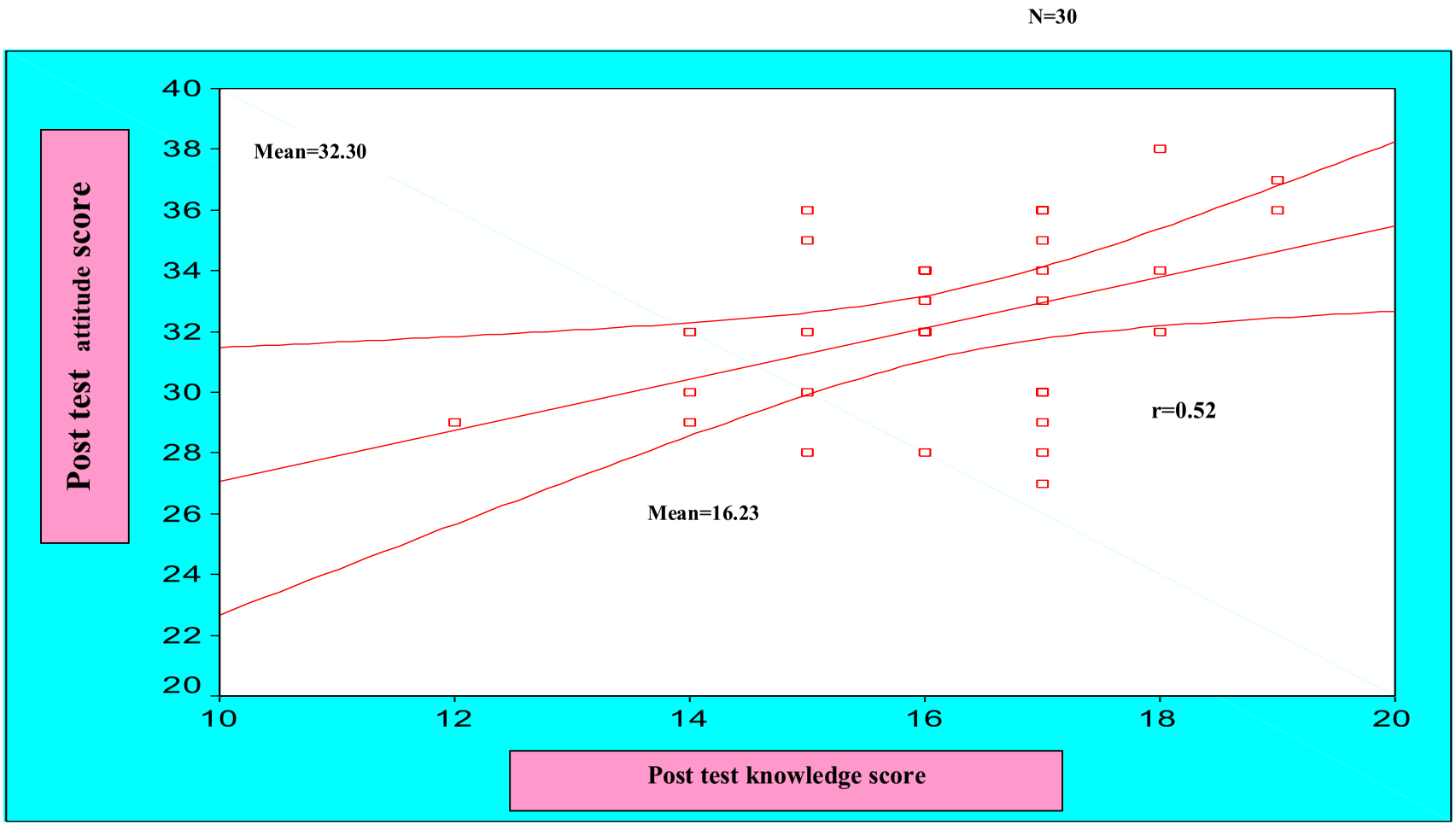

Fig 4.4.1: Correlation between the post test level of knowledge with attitude score regarding prevention of MDR-TB in the experimental group

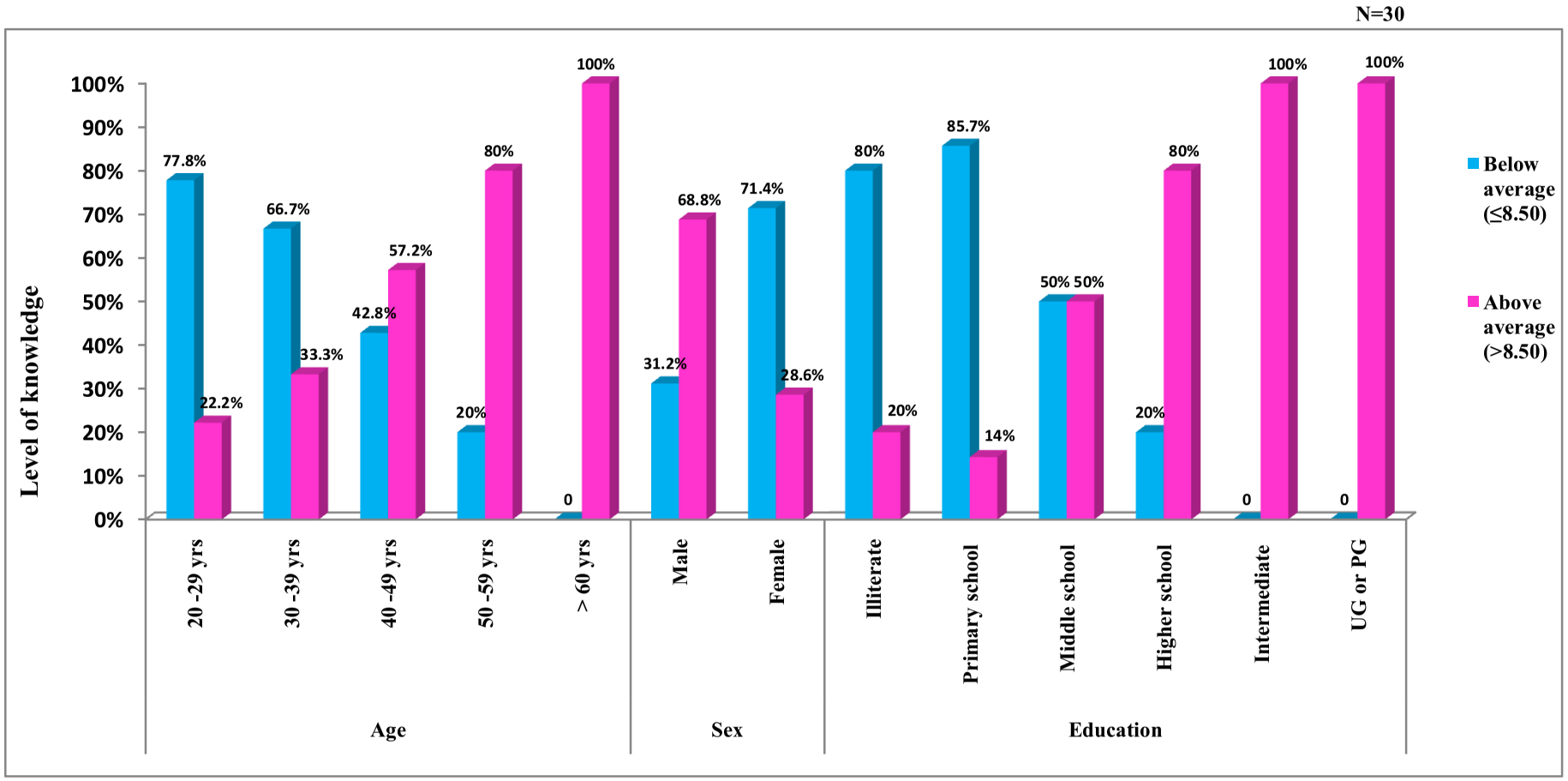

Fig 4.5.1: Association of selected demographic variables with the mean differed level of knowledge gain score regarding prevention of MDR-TB in the experimental group

N = 30

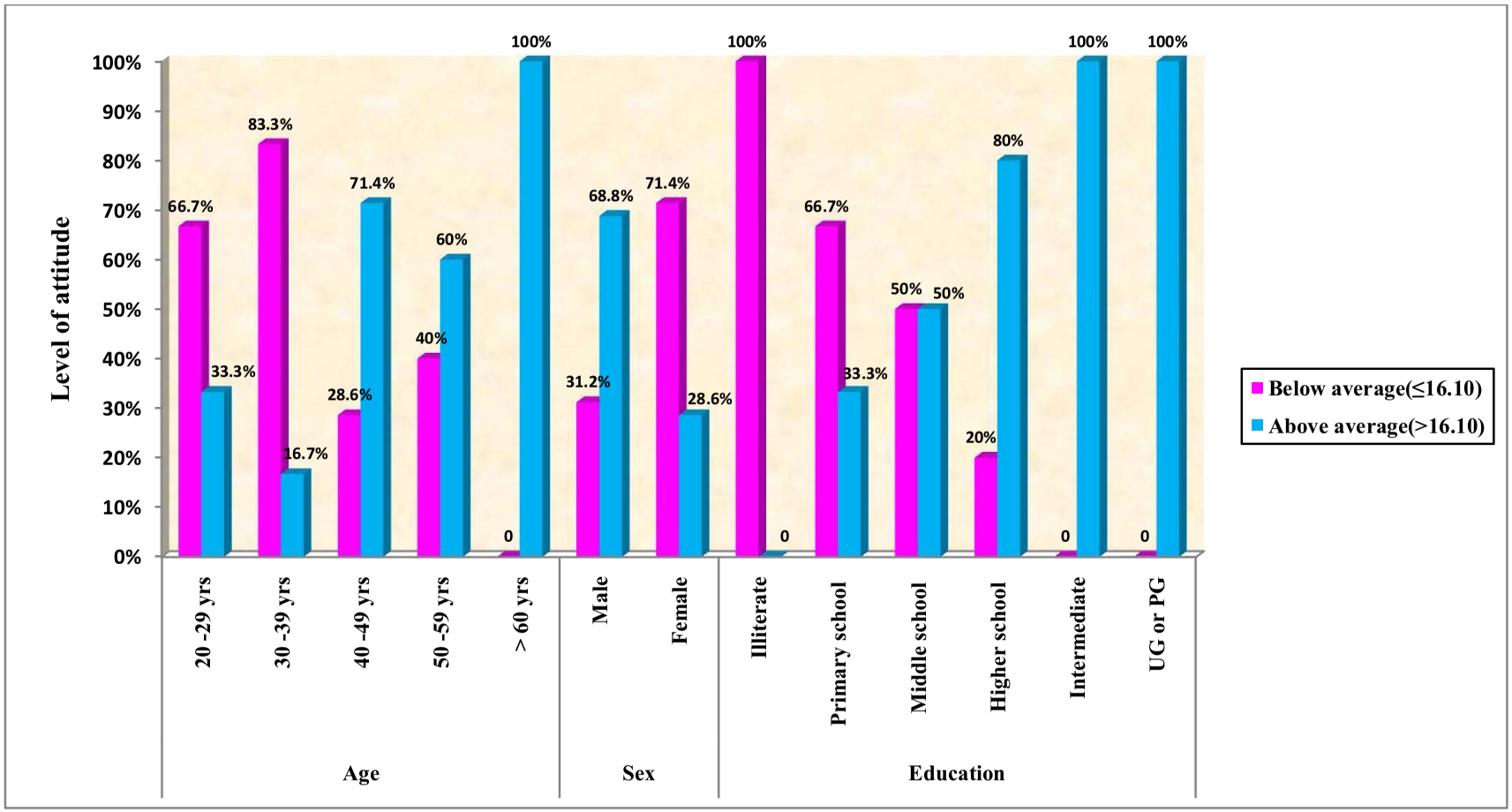

Fig 4.5.1 Association of selected demographic variables with the mean differed level of attitude gain score regarding prevention of MDR-TB in the experimental group

LESSON PLAN ON SELF CARE MODULE ON PREVENTION OF MDR-TB

Topic	:	Self Care Module on prevention of MDR-TB
Group	:	Tuberculosis patients
Group Size	:	5-7 members
Place	:	District Tuberculosis Centre, Karayanchavadi, Chennai
Duration	:	45 minutes to 1 hour
Teaching method	:	Lecture cum discussion
Instructor	:	Investigator
Instructional Aids	:	Power point presentation, Video show, Pictorial Booklet
Seating arrangement	:	Horse shoe method
General objective	:	At the end of the session the Tuberculosis patients will gain adequate knowledge and favourable attitude regarding MDR-TB
Specific objectives	:	At the end of the session the tuberculosis patients will be able to; • define MDR-TB • specify the epidemiology of MDR-TB • identify the risk factors for MDR-TB • mention the causes of MDR-TB • list down the signs and symptoms of MDR-TB • enlist the diagnostic evaluation for MDR-TB

- enumerate the treatment for MDR-TB
- describe the complications of MDR-TB
- illustrate the prevention of MDR-TB
- determine the prognosis of MDR-TB
- state the myths of MDR-TB
- gain favourable attitude towards drug compliance of MDR-TB

S.NO.	SPECIFIC OBJECTIVES	TIME	CONTENT	INVESTIGATOR'S ACTIVITY	LISTENER'S ACTIVITY
1.	introduces the topic	1 mt	**INTRODUCTION** India accounts for one fifth of the global TB burden and more than 40% of population is infected with Mycobacterium Tuberculosis. Apart from being a major public health problem, the economic burden of Tuberculosis in India is huge and is a great loss in terms of lives, money and lost work days. Tuberculosis kills more women than all cause of maternal mortality besides rendering children orphan and women dejected by their families. Poverty and poor living conditions, malnutrition, unemployment, migration, stigma associated with disease have increased the social burden of the disease. Most of the patients do not continue their full course of treatment due to various reasons. So this may lead them to resistant to the Tuberculosis medications	Investigator introduces the topic	Listening
2.	define MDR-TB	3 mts	**DEFINITION** Multidrug Resistant Tuberculosis **MDR-TB** is defined as Tuberculosis caused by bacteria that are resistant to the two most important first-line anti-TB drugs at least rifampicin (RMP) and isoniazid (INH).	Investigator defines MDR-TB using PPT	Listening

S.NO.	SPECIFIC OBJECTIVES	TIME	CONTENT	INVESTIGATOR'S ACTIVITY	LISTENER'S ACTIVITY
			TYPES OF RESISTANT TUBERCULOSIS • **Mono Drug Resistant TB-**Resistance to any single drug • **Poly Drug Resistant TB**-Resistance to more than one drug excluding both INH and Rifampicin • **Multi-Drug Resistant TB**-Resistance to atleast INH and Rifampicin • **Extensive Drug Resistant TB**-Resistance to second line TB drugs in addition to Rifampicin		
3.	specify the epidemiology of MDR-TB	2 mts	**EPIDEMIOLOGY** • Globally, 5% of TB cases were estimated to have had MDR-TB in 2013 (3.5% of new and 20.5% of previously treated TB cases) 2,10,000 people died. Extensively Drug-Resistant TB (XDR-TB) has been reported by 100 countries in 2013. • On average, an estimated 9% of people with MDR-TB have XDR-TB • Recent country-level data shows that about 5 per cent of TB patients are HIV-positive	Investigator specifies the epidemiology of MDR-TB	Listening
4.	identifies the risk factors for MDR-	5 mts	**RISK FACTORS** • Babies and children under 5 years of age (They will need to have	Investigator identifies the risk factors of	Listening

S.NO.	SPECIFIC OBJECTIVES	TIME	CONTENT	INVESTIGATOR'S ACTIVITY	LISTENER'S ACTIVITY
	TB		treatment to prevent TB disease if exposed to someone with TB) • HIV infected persons • Malnourished persons • Persons living in overcrowded households/ public institutions like prisons • Persons whose immune systems are not strong due to other diseases E.g. Diabetes Mellitus, cancer and some medications • Persons with substance abuse problems E.g. Alcoholism or drug abuse.	MDR-TB using PPT	
5.	mention the causes of MDR-TB	5 mts	**CAUSES** Mycobacterium Tuberculosis has the ability to undergo spontaneous, slow but constant mutation, resulting in resistant mutant organisms. • Non compliance of patients due to various reasons. • No monitoring of treatment. • Unavailability of certain drugs. • Poor quality of drugs. • Wrong doses of drugs. • DOTS not properly taken	Investigator asks what may be the causes of MDR-TB using PPT	Listens and actively participating in discussion

S.NO.	SPECIFIC OBJECTIVES	TIME	CONTENT	INVESTIGATOR'S ACTIVITY	LISTENER'S ACTIVITY
			• Lack of information. Associated diseases Eg: HIV, Diabetes mellitus and pregnant mothers		
6.	list down the signs and symptoms of MDR-TB	5 mts	**SIGNS AND SYMPTOMS** • A persistent cough for longer than 2 weeks. • The cough may be productive and blood stained • Chest pain • Marked reduction of weight • Loss of appetite and • Night sweats • Joint pain	Investigator lists down the signs and symptoms of MDR-TB using PPT	Listens and contributes the ideas
7.	enlist the diagnostic evaluation for MDR-TB	4 mts	**DIAGNOSTIC EVALUATION** • For Pulmonary TB patients tests called culture and sensitivity testing (**Drug Susceptibility Testing**) are done on the sputum specimens of people suspected of having MDR TB. • These specialized tests take three to four weeks to reveal growth of the resistant TB bacilli, and to see which drugs will work against the bacteria. • In addition, **Mantoux** and **Chest X-ray**may be done in certain circumstances to see the extent of any lung damage and for future	Investigator enlists the diagnostic evaluation for MDR-TB using PPT	Listening

S.NO.	SPECIFIC OBJECTIVES	TIME	CONTENT	INVESTIGATOR'S ACTIVITY	LISTENER'S ACTIVITY
			monitoring of response to treatment • For extra pulmonary patients, **MRI/Biopsy/Aspiration** will be done • **CT scan** to detect pleural thickening, pleural effusion and lymphadenopathy		
8.	enumerate the treatment of MDR-TB	10 mts	**TREATMENT** MDR-TB DRUG REGIMEN The goal of MDR-TB treatment is to prevent the future development and spread of MDR-TB. 6 drugs in the intensive phase (6 months) • Kanamycin • Levofloxacin • Ethionamide • Cycloserine • Pyrazinamide • Ethambutol 4 drugs in the continuation phase(18 months) • Levofloxacin • Ethionamide	Investigator enumerates about the treatment of MDR-TB using PPT	Listening

<table>
<tr><th>S.NO.</th><th>SPECIFIC OBJECTIVES</th><th>TIME</th><th>CONTENT</th><th>INVESTIGATOR'S ACTIVITY</th><th>LISTENER'S ACTIVITY</th></tr>
<tr><td></td><td></td><td></td><td>

Cycloserine
Ethambutol

Patients with MDR TB will have to take at least 5 different drugs, including a daily injection for 4 months 5 days a week.

Thereafter patients will need to take at least 3 different drugs for a further 12 – 16 months 5 days a week.
Thus, treatment is much longer than for "ordinary TB" (which takes between 6 to 8 months), and can go on for up to 2 years.
The length of treatment is to ensure that the disease does not relapse.

WEIGHT BANDS FOR MDR-TB DRUG REGIMEN
<table>
<tr><th>DRUGS</th><th>WEIGHT BAND (16-25 Kgs)</th><th>WEIGHT BAND (26-45 Kgs)</th><th>WEIGHT BAND (47-70 Kgs)</th></tr>
<tr><td>Kanamycin</td><td>500 mg</td><td>500 mg</td><td>750 mg</td></tr>
<tr><td>Levofloxacin</td><td>250 mg</td><td>750 mg</td><td>1000 mg</td></tr>
<tr><td>Ethionamide</td><td>375mg</td><td>500 mg</td><td>750 mg</td></tr>
<tr><td>Cycloserine</td><td>250 mg</td><td>500 mg</td><td>750 mg</td></tr>
<tr><td>Pyrazinamide</td><td>500 mg</td><td>1250 mg</td><td>1500 mg</td></tr>
<tr><td>Ethambutol</td><td>400 mg</td><td>800 mg</td><td>1200 mg</td></tr>
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<table>
<tr><th>S.NO.</th><th>SPECIFIC OBJECTIVES</th><th>TIME</th><th>CONTENT</th><th>INVESTIGATOR'S ACTIVITY</th><th>LISTENER'S ACTIVITY</th></tr>
<tr><td></td><td></td><td></td><td>
<table>
<tr><td>Pyridoxine</td><td>50 mg</td><td>100 mg</td><td>100 mg</td></tr>
<tr><td>Sodium Para-aminosalycilic acid (80% weight/vol)2</td><td>5 mg</td><td>10 mg</td><td>12 gm</td></tr>
<tr><td>Moxifloxacin</td><td>200 mg</td><td>400 mg</td><td>400 mg</td></tr>
<tr><td>Capreomycin</td><td>500 mg</td><td>750 mg</td><td>1000 mg</td></tr>
</table>
</td><td></td><td></td></tr>
<tr><td>9.</td><td>describe the complications of MDR-TB</td><td>5 mts</td><td>COMPLICATIONS
Hemoptysis - Caused by a cavitary lesion eroding into a vein
Hematemesis or melena -The most common cause of upper gas trointestinal tract bleeding is stress ulcers. Melena is a black, tarry feces that is caused by bleeding from the upper GI tract
Pleural effusion and empyema- Empyemas are caused by large amounts of bacteria in the pleural space
Bone pain (spine, ribs, and joints)-bacteria in the joints can cause extreme pain swelling,abscess and arthritis
Meningitis,
Kidney and/or liver malfunction- The kidney may be involved when environmental mycobacteria cause disseminated disease,</td><td>Investigator describes the complications of MDR-TB using PPT</td><td>Listening</td></tr>
</table>

S.NO.	SPECIFIC OBJECTIVES	TIME	CONTENT	INVESTIGATOR'S ACTIVITY	LISTENER'S ACTIVITY
			such as that caused by M. avium in AIDS patients. • Cardiac tamponade-a necrotizing pulmonary process like tuberculosis in the setting of HIV could have resulted in the fistulous communication between the lung and pericardium leading to pneumopericardium • Visual disturbances-When TB bacteria spread into the eyes, the result can be redness, irritation, and swelling of the retina and other parts of the eye		
10.	illustrate the prevention of MDR-TB	10 mts	**PREVENTION OF MDR-TB** The most important way to prevent the occurrence of MDR-TB ; **HYGIENIC PRACTICES** **a) Respiratory hygiene/cough etiquette** ▪ Instruct to cover their nose and mouth when coughing or sneezing. ▪ Providing face masks to assist them in covering their mouths. ▪ Cloth masks can be sterilized and reused. ▪ Paper tissues can also be used while coughing or sneezing. ▪ Clients and their attenders are encouraged to wash their hands after contact with respiratory secretions.	Investigator illustrates the preventive methods of MDR-TB using videoshow and PPT	Listening and thinks about it

S.NO.	SPECIFIC OBJECTIVES	TIME	CONTENT	INVESTIGATOR'S ACTIVITY	LISTENER'S ACTIVITY
			▪ Sputum is to be collected in a container with a disinfectant. ▪ It should then be discarded by flushing or by burning it. **i) Techniques to wear mask** • Determine which side of the mask is the upper one. • The side of the mask that has a stiff bendable edge is the top and is meant to mold to the shape of your nose Face Mask with Ear loops- Hold the mask by the ear loops. Place a loop around each ear. Face Mask with Ties- Bring the mask to your nose level and place the ties over the crown of your head and secure with a bow. • Mold or pinch the stiff edge to the shape of your nose. • If using a face mask with ties: Then take the bottom ties, one in each hand, and secure with a bow at the nape of your neck. • Pull the bottom of the mask over your mouth and chin. **ii) Steps in collecting the sputum and hygiene**		

S.NO.	SPECIFIC OBJECTIVES	TIME	CONTENT	INVESTIGATOR'S ACTIVITY	LISTENER'S ACTIVITY
			• Have a sputum cup with lid filled with disinfectant solution. E.g: Dettol • Whenever needed spit out the sputum in the cup and follow hand hygiene • The final disposal of the sputum should be incinerated • Hand washing technique should be followed both by the patient and the care givers **iii) Hand washing technique** • Wet the hands with water • Apply enough soap to cover all hand surfaces 1) Rub hands palm to palm 2) Rub back of each hand with palm of other hand with fingers interlaced 3) Rub palm to palm with fingers interlaced 4) Rub with back of fingers to opposing palms with fingers interlocked 5) Rub each thumb clasped in opposite hand using a rotational movement		

S.NO.	SPECIFIC OBJECTIVES	TIME	CONTENT	INVESTIGATOR'S ACTIVITY	LISTENER'S ACTIVITY
			6) Rub tips of fingers in opposite palm in a circular motion 7) 7)Rub each wrist with opposite hand **b) Household hygiene** ▪ Providing clean hand washing facilities. ▪ Offer waterless alcohol based hand sanitizers. ▪ Provide boxes of tissues and encourage their use. ▪ Be sure dishes are washed in soap and water after use. ▪ Removing magazines and papers from common rooms. ▪ Special handling of linear or waste contaminated with secretions from persons. **c) Environmental control measures** Environmental controls are the second line of defense for preventing the spread of TB. • Ventilation • Adequate cross ventilation should be present. • Fan should be provided. • Fresh air also helps in controlling transmission, where it dilutes		

S.NO.	SPECIFIC OBJECTIVES	TIME	CONTENT	INVESTIGATOR'S ACTIVITY	LISTENER'S ACTIVITY
			the concentration of particles in room air such as M.tuberculosis. Thereby natural ventilation is must. • Ultraviolet germicidal irradiation(UVGI) ➢ Here the upper air is being continuously being irradiated and the overall concentration of droplet nuclei decreases. ➢ M.Tuberculosis is killed if the organisms are exposed sufficiently to UVGI • Dry the clothes under the sunlight **d) MDR-TB and HIV** • Early recognition • Regular check up • Separation from others • Environmental and personal protection measures-cough hygiene, hand washing, wearing N 95 mask **e) MDR-TB and Diabetes** • Follow diabetic diet • Regular maintenance of blood glucose using insulin		

S.NO.	SPECIFIC OBJECTIVES	TIME	CONTENT	INVESTIGATOR'S ACTIVITY	LISTENER'S ACTIVITY
			• Follow regular exercise		
			f) Diet • Protein deficiency may have a particular detrimental effect on the ability of the body to fight tuberculosis. • On a 2000-calorie diet, eat 2 cups of fruit and 2 and a half cups of vegetables per day. • The daily intake should contain legumes, pulses, meat, milk and milk products, fish, beans, seeds, pulses, peas, starchy vegetables, leafy vegetables, etc • He should have three meals a day of fresh, juicy fruits, such as apples, grapes, pears, peaches, oranges, pineapples, melons or any other juicy fruit in season. • Studies suggest that the Vitamin A found in cod liver oil may have helped treat the disease by boosting the immune systems response to the bacteria. • The fruit and milk diet should be continued for four to six weeks **g) Medications** Regular compliance of the treatment		

S.NO.	SPECIFIC OBJECTIVES	TIME	CONTENT	INVESTIGATOR'S ACTIVITY	LISTENER'S ACTIVITY
			h) Regular follow up • Patients should be seen for clinical evaluation at monthly intervals • Smear and culture sputum, atleast 30 days apart from the 3rd to 7th month of treatment, and at 3monthly interval from the 9th month onwards till the completion of treatment • Body weight should be monitored at every visit • Serum creatinine to be done every first 3 months and every month while the patient is receiving Inj.Kanamycin • Regular counseling about follow up **i) Immunization** • Immediately after 24 hours after birth to prevent TB disease a vaccine is mandatory which is called Bacille Calmette-Guerin (BCG). It is used in some countries to prevent severe forms of TB in children. • The effect of BCG against XDR TB would likely be similar to the effect on drug-susceptible TB.		

S.NO.	SPECIFIC OBJECTIVES	TIME	CONTENT	INVESTIGATOR'S ACTIVITY	LISTENER'S ACTIVITY
			PROGNOSIS • Drug-Resistant Tuberculosis is much more difficult to treat, and treatment must go on for much longer — often more than a year. • Getting diagnosed and treated quickly can be the difference between good health and long-term damage, and even life and death **MYTHS** • MDR-TB is caused by evil/witchcraft • MDR-TB is hereditary • I don't have TB symptoms, I don't have TB **CONCLUSION** MDR-TB patients are managed by several healthcare providers under these different sectors and the responsibility of providing quality patient care to achieve MDR-TB control is therefore, with all these sectors. Effective control of MDR-TB will be possible if all these sectors come together and work towards a common goal with all your co-operation.		

APPENDIX – K

DISSERTATION EXECUTION PLAN - GANNT CHART																			
S.NO	**CALANDER MONTHS**	**Nov '14**	**Dec '14**	**Jan '15**	**Feb '15**	**Mar '15**	**Apr '15**	**May '15**	**June '15**	**July '15**	**Aug '15**	**Sep '15**	**Oct '15**	**Nov '15**	**Dec '15**	**Jan '16**	**Feb '16**	**Mar '16**	**Apr '16**
A	**Conceptual phase**																		
1	Problem identification																		
2	Literature review																		
3	Clinical fieldwork																		
4	Theoretical framework																		
5	Hypothesis formulation																		
B	**Design & planning phase**																		
6	Research design																		
7	Intervention protocol																		
8	Population specification																		
9	Sampling plan																		
10	Data collection plan																		
11	Ethics procedure																		
12	Finalization of plans																		
C	**Empirical phase**																		
13	Data collection																		
14	Data preparation																		
D	**Analytical phase**																		
15	Data analysis																		
16	Interpretation of results																		
E	**Dissemination phase**																		
17	Presentation or report																		
18	Utilization of findings																		
	Calendar months	**11**	**12**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	09	10	11	12	13	01	02	**03**

பிரிவு-இ

பல மருந்து எதிர்ப்பு காசநோயைப் பற்றி அணுகுமுறையை மதிப்பிடும்

4-புள்ளிகள் கொண்ட லைகார்ட் கருவி

வ.எண்.	அறிக்கை	மு.ஏ	ஏ	மறு	மு.மறு
1.	எல்லா காசநோயாளிகளுக்கும் பல மருந்து எதிர்ப்பு காசநோய் உருவாகும்				
2.	பல மருந்து எதிர்ப்பு காசநோய் உயிருக்கு ஆபத்தான உடல்நல உபாதையாகும்				
3.	இணக்கமான மருந்தால் பல மருந்து எதிர்ப்பு காசநோயை தடுக்கலாம்				
4.	பல மருந்து எதிர்ப்பு காசநோய் முற்றிலும் குணப்படுத்தக்கூடிய உடல்நல பிரச்சனையாகும்				
5.	பல மருந்து எதிர்ப்பு காசநோய் முக்கியமாக எதிர்ப்பு சக்தி குறைப்பாடு உள்ளோர்க்கு ஏற்ப்படும்				
6.	பல மருந்து எதிர்ப்பு காசநோயின் சிகிச்சையின் செலவு குறைவாகும்				
7.	பல மருந்து எதிர்ப்பு காசநோயானது ஒருவரிடமிருந்து மற்றொருவருக்கு பரவுகிறது				
8.	பல மருந்து எதிர்ப்பு காசநோயை முன்கணிப்பது மிகவும் கடினமாகும்				
9.	பல மருந்து எதிர்ப்பு காசநோயை தடுக்க முடியும்				
10.	நோய் தடுப்பினால் பல மருந்து எதிர்ப்பு காசநோயை தடுக்கலாம்				

மு.ஏ = முழுமையாக ஏற்கிறேன்

ஏ = ஏற்கிறேன்

மறு = மறுக்கிறேன்

மு.மறு = முழுமையாக மறுக்கிறேன்

தன் நல தொகுதி அமைப்பு

பல மருந்து எதிர்ப்பு காசநோயின் தடுப்பு முறைகள் பற்றிய பாடத்திட்டம்

தலைப்பு	:	பல மருந்து எதிர்ப்பு காசநோயின் தடுப்பு முறைகள் பற்றிய தன் நல தொகுதி அமைப்பு
குழுமம்	:	காசநோயாளிகள்
குழுமம் அளவு	:	5-7 நபர்கள்
இடம்	:	மாவட்ட காசநோய் மையம்,கரையான்சாவடி, சென்னை
காலநேரம்	:	45 நிமிடங்கள் – 1 மணி நேரம்
கற்பிக்கும் முறை	:	விரிவுரை மற்றும் கலந்துரையாடல்
கற்பிப்பவர்	:	ஆய்வாளர்
கற்பிக்க உதவும் கருவி	:	விளக்கக்காட்சி வழங்கல்,ஒளிநாடா காட்சி,சிறுநூல்
இருக்கை அமைப்பு	:	ஹார்ஸ் ஷூ முறை

பொதுவான குறிக்கோள் : இந்த பகுதியின் முடிவில் காசநோயாளிகள் போதுமான அறிவும் ஆதரவான கருத்துக்களையும் ஈன்றப்படுவார்கள்

குறிப்பான குறிக்கோள் : இந்த பகுதியின் முடிவில் காசநோயாளிகளினால் செய்யக்கூடியவை;

- பல மருந்து எதிர்ப்பு காசநோயின் அர்த்தங்களை விவரி
- பல மருந்து எதிர்ப்பு காசநோயின் நோய்த் தொற்றுகள் பற்றி வரைக
- பல மருந்து எதிர்ப்பு காசநோயின் ஆபத்துக்காரணிகளை எடுத்துகாட்டுக
- பல மருந்து எதிர்ப்பு காசநோயின் காரணங்களை குறிப்பிடுக
- பல மருந்து எதிர்ப்பு காசநோயின் அறிகுறிகளை பட்டியலிடுக
- பல மருந்து எதிர்ப்பு காசநோய்க்கான பரிசோதனை முறைகள் பற்றி உறுதிசெய்க
- பல மருந்து எதிர்ப்பு காசநோய்க்கான சிகிச்சை முறைகளை விவரி
- பல மருந்து எதிர்ப்பு காசநோய்க்கான சிக்கல்களை குறிப்பிடுக
- பல மருந்து எதிர்ப்பு காசநோய்க்கான தடுப்பு முறைகளை விவரி
- பல மருந்து எதிர்ப்பு காசநோயை பற்றிய முன்கணிப்பை சுட்டிக்காட்டல்
- பல மருந்து எதிர்ப்பு காசிநோய் பற்றிய மூடநம்பிக்கைகளை எடுத்துக்கூறு

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
1.	தலைப்பை அறிமுகப்படுத்துதல்	1 நிமிடம்	**முன்னுரை** இந்தியாவில் 1 இல் 5 சதவிகிதம் மக்களுக்கு மைக்கோபாக்டீரியம் எனும் பாக்டீரியாவினால் காசநோய் உருவாகும்.இது ஏழை எளிய மக்களுக்கும்,சுகாதாரம் இல்லாத இடத்தில் வாழ்வோர்க்கும் அதிகமாக காணப்படும். தற்போது பெரும் மக்கள் சிகிச்சை முறைகளை கடைபிடிக்காமல் இடையிறுவதால் பல மருந்து எதிர்ப்பு காசநோய் உண்டாகிறது.இதை தடுக்க முதலில் இதன் பொருளடக்கத்தை காண்போம். பெரும்பாலான மக்கள் காசநோய்க்கான சிகிச்சை முறைகளை ஏதாவது காரணங்களால் முழுமையாக எடுக்காத்தினால் மருந்து எதிர்ப்பு உண்டாகிறது	ஆய்வாளர் தலைப்பை அறிமுகப்படுத்துதல்	கவனித்தல்

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
2.	பல மருந்து எதிர்ப்பு காசநோயின் அர்த்தங்களை விவரி	3 நிமிடம்	**அர்த்தங்கள்** காசநோய்க்கான நுண்ணுயிர்கள் மிக முக்கியமான முதற்க்கட்ட மருந்தான ரிபாம்பைஸின் மற்றும் ஐசோநியாசிட் இரண்டிற்க்கும் மருந்து எதிர்ப்பு உண்டாக்குவதே பல மருந்து எதிர்ப்பு காசநோய் ஆகும். **மருந்து எதிர்ப்பு காசநோய் வகைகள்** • **ஒரு மருந்து எதிர்ப்பு காசநோய்** - ஏதேனும் ஒரு மருந்து எதிர்ப்பு • **பற்பல மருந்து எதிர்ப்பு காசநோய்** - ரிபாம்பைஸின் மற்றும் ஐசோநியாசிட் தவிர்த்து ஒன்றிற்க்கும் மேற்ப்பட்ட மருந்து எதிர்ப்பு • **பல மருந்து எதிர்ப்பு காசநோய்** - முதற்க்கட்ட மருந்தான ரிபாம்பைஸின் மற்றும் ஐசோநியாசிட் இரண்டிற்க்கும் மருந்து எதிர்ப்பு • **விரிவான மருந்து எதிர்ப்பு காசநோய்** - ரிபாம்பைஸின் மற்றும் இரண்டாம் பிரிவு மருந்துகளுக்கு எதிர்ப்பு	ஆய்வாளர் பல மருந்து எதிர்ப்பு காசநோயை விளக்கக்காட்சி வழங்கல் மூலமாக விவரித்தார்	கவனித்தல்

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
3.	பல மருந்து எதிர்ப்பு காசநோயின் நோய்த் தொற்றுகள் பற்றி வரைக	2 நிமிடம்	**நோய்த் தொற்றுகள்** • 2013-ன் கணக்கெடுப்பின்படி உலகளவில் 5% காசநோயாளிகளுக்கு பல மருந்து எதிர்ப்பு காசநோய் கண்டுபிடிக்கப்பட்டுள்ளது.(3.5% புது மற்றும் 20.5% ஏற்கனவே காசநோய்க்காக சிகிச்சை அளிக்கப்பட்டவர்கள்).2,10,000 மக்கள் இறந்துவிட்டனர்.2013-ன் கணக்கெடுப்பின்படி 100 நாடுகளில் மருந்து எதிர்ப்பு காசநோய் குறிப்பிடப்பட்டுள்ளது. • 9% மக்களுக்கு விரிவான மருந்து எதிர்ப்பு காசநோய் கண்டுப்பிடிக்கப்பட்டுள்ளது • சமீபத்தில் 5% எச்.ஐ.வி நோயாளிகளுக்கு காசநோய் குறிப்பிடப்பட்டுள்ளது.	ஆய்வாளர் பல மருந்து எதிர்ப்பு காசநோயை விளக்கக்காட்சி வழங்கல் மூலமாக வரைந்தார்	கவனித்தல்

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
5.	பல மருந்து எதிர்ப்பு காசநோயின் காரணங்களை குறிப்பிடுக	5 நிமிடம்	**காரணங்கள்** மைக்கோபாக்டீரியம் எனும் பாக்டீரியாவினால் தானாகவே நீடித்த விகாரத்தை உண்டாக்க முடியும்,இதுவே எதிர்ப்பு விகார கிருமிகளை உருவாக்கும் • ஏதாவது காரணங்களால் மருந்துகளை தவிர்ப்பது/இடையிருவது • சிகிச்சை கண்காணிப்பின்மை • மருந்து பற்றாக்குறை • தரம் குறைந்த மருந்தை உட்க்கொள்வதால் • தவறான மருந்தின் அளவு • டாட்ஸ் சிகிச்சை சரியாக உட்க்கொள்ளாததால் • போதிய தகவல்யின்மை • வேறு நோய்களால் ஏற்ப்படும்சிக்கல்கள் எடுத்துக்காட்டாக; எச்.ஐ.வி,சர்க்கரை நோய்,கர்ப்பிணிகள்	ஆய்வாளர் பல மருந்து எதிர்ப்பு காசநோயை விளக்கக்காட்சி வழங்கல் மூலமாக குறிப்பிட்டார்	கவனித்தல்

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
5.	பல மருந்து எதிர்ப்பு காசநோயின் ஆபத்துக்காரணிகளை எடுத்துகாட்டுக	5 நிமிடம்	**ஆபத்துக்காரணிகள்** • ஐந்து வயதுக்குட்பட்ட குழந்தைகள் • எச்.ஐ.வியால் பாதிக்கப்பட்டோர் • ஊட்டச்சத்து குறைபாடு • நெரிசல் நிறைந்த பகுதியில் இருப்பதால்/சிறை கைதிகளுக்கு • எதிர்ப்பு சக்தி குறைபாட்டை உண்டாக்கும் நோய் உள்ளோர்க்கு. (எடுத்துக்காட்டாக); சர்க்கரை நோயாளிகள்,புற்றுநோயாளிகள் • போதைப்பொருள்/குடிப்பழக்கம் உள்ளோர்க்கு	ஆய்வாளர் பல மருந்து எதிர்ப்பு காசநோயை விளக்கக்காட்சி வழங்கல் மூலமாக ஆபத்துக்காரணிகளை எடுத்துகாட்டினார்	கவனித்தல்

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
6.	பல மருந்து எதிர்ப்பு காசநோயின் அறிகுறிகளை பட்டியலிடுக	5 நிமிடம்	**அறிகுறிகள்** • இரண்டு வாரத்திற்க்கும் மேற்பட்ட இருமல் • அதிகபடியான சளியுடன் கூடிய இரத்தம் • நெஞ்சுவலி • எடைகுறைவு • பசியின்மை • இரவு நேரத்தில்அதிகமாக வியர்ப்பது • மூட்டுவலி	ஆய்வாளர் பல மருந்து எதிர்ப்பு காசநோயின் அறிகுறிகளை விளக்கக்காட்சி வழங்கல் மூலமாக பட்டியலிட்டார்	கவனித்து அவர்கள் கருத்துகளை பகிர்ந்தனர் ,

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
7	பல மருந்து எதிர்ப்பு காசநோய்க்கான பரிசோதனை முறைகள் பற்றி உறுதிசெய்க	4 நிமிடம்	**பரிசோதனை முறைகள்** • மருந்து ஈர்ப்பு பரிசோதனை நோயாளியின் சளியில் மருந்து ஒவ்வாமை மற்றும் மருந்து ஏற்பை கண்டுப்பிடிக்க உதவும்.இந்த பரிசோதனையில் எதிர்ப்பு காசநோய்க்கான கிருமிகளை கண்நோக்க 3-4 வாரங்கள் எடுக்கும் • மான்டாக்ஸ் பரிசோதனை • எக்.ஸ்.ரே(ஊடுகதிர்) இது நுரையீரல் பழுதடைப்பின் விகாரத்தை எடுத்துக்காட்டி,சிகிச்சையின் பிற்கால கண்காணிப்பிற்க்குஉதவியாக இருக்கும் • ஸ்கேன் நெஞ்சுக்கூட்டு தடித்தல்,நுரையீரலில் சீழ்ப்பிடித்தல்,நினைச்சுரப்பிப்புற்று போன்றவைகளை கண்டுப்பிடிக்க உதவும்	ஆய்வாளர் பல மருந்து எதிர்ப்பு காசநோயின் பரிசோதனை முறைகளை விளக்கக்காட்சி வழங்கல் மூலமாக உறுதிசெய்கிறார்	கவனித்தல்,

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
8.	பல மருந்து எதிர்ப்பு காசநோய்க்கான சிகிச்சை முறைகளை விவரி	5 நிமிடம்	**சிகிச்சை முறைகள்** **பல மருந்து எதிர்ப்பு காசநோய்க்கான மருந்தின் திட்ட முறை** பல மருந்து எதிர்ப்பு காசநோய்க்கான சிகிச்சையின் நோக்கம் என்னவென்றால் பிற்காலத்தில் பல மருந்து எதிர்ப்பு காசநோய் உருவாகாமலும் பரவாமலும் தடுப்பதற்காகும். **தீவிர கட்டத்திற்க்கான 6 மருந்துகள் (6 மாதங்கள்)** ➢ கானாமைசின் ➢ லீவோபிலாக்சசின் ➢ ஈத்தியோனமைடு ➢ ஸைக்லோசெரின் ➢ ஈத்தேம்பூட்டால் **தொடர்ச்சியான கட்டத்திற்க்கான 4 மருந்துகள் (18 மாதங்கள்)** ➢ லீவோபிலாக்சசின் ➢ ஈத்தியோனமைடு	ஆய்வாளர் பல மருந்து எதிர்ப்பு காசநோயின் சிகிச்சை முறைகளை விளக்கக்காட்சி வழங்கல் மூலமாக விவரித்தல்	கவனித்தல்,

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
			➢ ஸைக்லோசெரின் ➢ ஈத்தேம்பூட்டால் • பல மருந்து எதிர்ப்பு காசநோயாளிகள் 5 விதமான மருந்துகளோடு ஊசிகளும் (தினமும்),4 மாததிற்க்கு(வாரத்தில் 5 நாட்கள்) எடுக்க வேண்டும். • அடுத்த 12-16 மாததிற்க்கு(வாரத்தில் 5 நாட்கள்) 3 விதமான மருந்துகள் உட்க்கொள்ள வேண்டும். • ஆதலால் காசநோயை விட , பல மருந்து எதிர்ப்பு காசநோய்க்கான சிகிச்சை முறைக்கான கால அளவு அதிகம்(2 வருடத்திற்க்கு மேல்) • சிகிச்சையின் நீடிப்பினால் மீட்சியை உருவாகாது என்று திடப்படுத்தலாம்		,

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு

பல மருந்து எதிர்ப்பு காசநோய்க்கான மருந்து திட்ட முறையின் எடை அளவு

மருந்துகள்	எடைஅளவு (16-25)கிலோ	எடை அளவு (26-45)கிலோ	எடை அளவு (47-70)கிலோ
கானாமைசின்	500மி.கி	500 மி.கி	750 மி.கி
லீவோபிலாக்சின்	250 மி.கி	750 மி.கி	1000 மி.கி
ஈத்தியோனமைடு	375 மி.கி	500 மி.கி	750 மி.கி
ஸைக்லோசெரன்	250 மி.கி	500 மி.கி	750 மி.கி
பைரசினமைடு	500 மி.கி	1250 மி.கி	1500 மி.கி
ஈத்தேம்பூட்டால்	400 மி.கி	800 மி.கி	1200 மி.கி
பைரிடாக்ஸின்	50 மி.கி	100 மி.கி	100 மி.கி
என்.எ-பிஎஸ்	5 மி.கி	10 மி.கி	12 மி.கி
மாக்ஸிபிலாக்சின்	200 மி.கி	400 மி.கி	400 மி.கி
காப்ரியோமைசின்	500 மி.கி	750 மி.கி	1000 மி.கி

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
9.	பல மருந்து எதிர்ப்பு காசநோய்க்கான சிக்கல்களை குறிப்பிடுக	5 நிமிடம்	**சிக்கல்கள்** • அதிகபடியான சளியுடன் கூடிய இரத்தம் • இரத்த வாந்தி / இரத்த மலம் • நுரையீரலில் சீழ்ப்பிடித்தல் • தசை / எழும்பு / முதுகு தண்டம் வலி • சிறுநீரக செயலிழப்பு • இதயத்தைச் சுற்றி இருக்கும் சவ்வு பொழிவுமாறிலி • பார்வை கோளாறுகள்	ஆய்வாளர் பல மருந்து எதிர்ப்பு காசநோயின் சிக்கல்களை விளக்கக்காட்சி வழங்கல் மூலமாக குறிப்பிடுக	கவனித்தல் ,

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
10.	பல மருந்து எதிர்ப்பு காசநோய்க்கான தடுப்பு முறைகளை விவரி	10 நிமிடம்	**தடுப்பு முறைகள்** **பல மருந்து எதிர்ப்பு காசநோயை வராமல் தடுப்பதற்கான முக்கிய வழிகள்** **சுகாதார நடைமுறைகள்** **அ)சுவாசத் தூய்மை** • இருமல்/தும்மலின் போது மூக்கு மற்றும் வாயை சேர்த்து மூடிக்கொள்ளவும் • இவ்வேளையில் சுத்தமான துணியை உபயோகிக்கவும் • துணி இல்லையேல் திசு பேப்பர் உபயோகப்படுத்தலாம் • வாயை மூடிக்கொள்ள முகமூடிகளும் உபயோகப்படுத்தலாம் • சளியை கிருமிநாசினி கலக்கப்பட்ட குவளையில் பிடித்து,பின்பு புதைக்க/எரிக்க வேண்டும்	ஆய்வாளர் பல மருந்து எதிர்ப்பு காசநோயின் தடுப்பு முறைகளை விளக்கக்காட்சி வழங்கல் மற்றும் ஒளிநாடா காட்சி மூலமாக விவரித்தார்	கவனித்தல்

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
			1)முகமூடிகள் பயன்படுத்தும் முறை • முதலில் முன் மற்றும் பின் பக்கம் எது என்று சரிப்பார்க்கவும் • வெள்ளை பகுதியே மூக்கின்மேல் படியவேண்டும் • இரண்டு காதின் இடுக்கிலும்,முகமூடியின் கண்ணியை மாட்ட வேண்டும் • பின்பு மூக்கையும் தாடையையும் மூடுவதாக அமைந்திருக்கவேண்டும்,மூக்கின் விழும்பை அழுத்திவிடவும் **2)சளி கோப்பையை உபயோகப்படுத்தும் முறை மற்றும் அதன் சுகாதாரம்** • உபயோகப்படுத்தும் முன் கிருமிநாசினியான டெட்டால்/சேவலான் சிறிதளவு தண்ணீர் கலந்து கோப்பையில் ஊற்றி பயன்படுத்த வேண்டும் • சளியை தேவைப்படும்போது சளி கோப்பையில் துப்பவும்,பின்பு மூடி வைக்கவும் • பின்பு கைகளை சோப் அல்லது கிருமிநாசினியால் கழுவவேண்டும்		,

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
			3)கைகளை கழுவும் 7 முறைகள் கைகளை தண்ணீர் மற்றும் சோப்பை உபயோகித்து கழுவ ஆரம்பிக்கவும் 1) வலது மற்றும் இடது உள்ளங்கைகளை தேய்க்கவும் 2) வலது உள்ளங்கையால் இடது பின்னங்கையை தேய்க்கவும், இடது உள்ளங்கையால் வலது பின்னங்கையை தேய்க்கவும் 3) வலது மற்றும் இடது கைகளை பிணைப்பிக்கவும் 4) வலது கை விரலின் பின்பக்கத்தை,இடது உள்ளங்கையோடு விரலை மூடி பிணைந்திருக்கவும்,இதேபோல் மறுப்பக்கமும் செய்யவும் 5) வலக்கை கட்டவிரலை இடக்கை உள்ளங்கையால் சுழற்சியாக தேய்க்கவும்,இதேபோல் மறுப்பக்கமும் செய்யவும்		,

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
			6) ஒருங்கிணைந்த வலக்கை விரல்களால், இடது உள்ளங்கையை சுழற்சியாக பின்னமும் முன்னமுமாக தேய்க்கவும், இதேபோல் மறுப்பக்கமும் செய்யவும் 7) வலது கை மணிகட்டை சுழற்சியாக தேய்க்கவும், அதேபோல் இடப்பக்கமும் செய்யவும் **ஆ)வீட்டு உபயோக சுகாதாரம** • சுத்தமான கை கழுவும் வசதியை வழங்கவேண்டும் • தண்ணீர் குறைந்த மது கலந்த கை சுத்திகரிப்பான் அளிக்கவும் • திசு பேப்பர் கொடுத்து உபயோகப்படுத்த ஊக்கப்படுத்தலாம் • பொது அறையில் செய்தித்தாள்கள் / காகிதங்கள் இருந்தால் எடுத்துவிட வேண்டும் • மனிதனுடைய அசுத்தமான கழிவுகளை சிறப்பாக கையாள வேண்டும்		,

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
			இ) சுற்றுப்புற கட்டுப்பாடு முறைகள் சுற்றுப்புற கட்டுப்பாடே பல மருந்து எதிர்ப்பு காசநோயை தடுப்பதற்கான இரண்டாம் கட்ட எதிர்ப்பு முறையாகும் ✓ காற்றோட்டம் • அளவான குறுக்கு காற்றோட்டம் இருக்க வேண்டும் • மின்விசிறி கொடுக்கப்படவும் • தூய்மையான இயற்கை காற்றை சுவாசிக்க வேண்டும்,இது பாக்டீரியாவின் விரியாக்கத்தை குறைத்திடும்.ஆகவே இயற்கை காற்றோட்டம் அவசியம் ✓ புற ஊதா கிருமிநாசினி கதிர்வீச்சு • இங்கு மேல் காற்று கதிர்வீச்சுகளால் சுத்திகரிக்கப்பட்டு கிருமிகளை குறைக்கின்றது • புற ஊதா கிருமிநாசினி கதிர்வீச்சால் மைக்கோபாக்டீரியம் முழுமையாக கொல்லப்படலாம		,

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
			ஈ) **பல மருந்து எதிர்ப்பு காசநோயும்-எச்.ஐ.வியும்** • முன் அறிதல் • காலந்தவறாத உடற்பரிசோதனை • மற்றவரிடம் இருந்து விலக்கப்படுதல் • சுகாதார நடைமுறைகள்-சுவாசத் தூய்மை(என்-95 முகமூடி),சுற்றுப்புற தூய்மை,சுய தூய்மையும் பின்பற்றவும் **உ) பல மருந்து எதிர்ப்பு காசநோயும்-சர்க்கரை நோயும்** • காலந்தவறாத சர்க்கரை அளவு பரிசோதனை • உணவு கட்டுப்பாடு • சர்க்கரை அளவு கட்டுப்பாடு(இன்சுலின்) • உடற்பயிற்சி **ஊ) உணவு முறை** • புரதச்சத்து நிறைந்த உணவை அதிகமாக உட்க்கொள்ள வேண்டும் • பழரசங்கள் குடிக்க வேண்டும்,அல்லது பால்/கஞ்சி வகைகளை குடிக்கவும்-இது உடல் சக்தி விரியாக்கத்திற்கு நல்லது • தினமும் அனைத்து கீரைகளும்,		,

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
			• காய்கறிகள்(பச்சையாக/அரைவேக்காடாக/நன்கு வேகவைத்தது) • தானிய,பருப்பு வகைகள்(சோயா பீன்ஸ்,பச்சை பட்டாணி,சுண்டல்,வேர்கடலை) • கிழங்கு வகைகள் • கோழி முட்டையின் வெள்ளை பகுதி • இறைச்சிகள் • அனைத்து பழவகைகள் ஆகிய அனைத்தையும் உண்ண வேண்டும் • இவற்றோடு வைட்டமின் எ நிறைந்த உணவு பொருட்கள் எதிர்ப்பு சக்தியை மேலும் ஊக்கப்படுத்தும் • பழம் மற்றும் பால் வகைகள் 4-6 வாரத்திற்க்கு இடைவிடாமல் உட்க்கொள்ள வேண்டும் **எ)பல மருந்து எதிர்ப்பு காசநோய் வந்த பின் பின்பற்ற வேண்டியவை** • மற்றவர்க்கு பரவுதலை தடுக்கவும் • ஒவ்வொரு முறையும் எடை கண்காணிப்பு		,

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
11			• கானாமைசின் ஊசியை எடுத்துக்கொள்பவர்கள்,முதல் மூன்று மாதம் இரத்த கிரியாட்டினைன் அளவு சரி பார்க்கவும் • உடல் நல ஆலோசனைகள் **ஏ)தடுப்பூசிகள்** • காசநோய்க்கான ஒரே தடுப்பூசி பி.சி.ஜி,அதுவும் குழந்தைகளுக்கு மாத்திரமே உண்டு • பி.சி.ஜி-யின் பலன் விரிவான மருந்து எதிர்ப்பு காசநோயுக்கும், பல மருந்து எதிர்ப்பு காசநோயுக்கும் சரிசமம்		, கவனித்தல்
12	பல மருந்து எதிர்ப்பு காசநோயை பற்றிய முன்கணிப்பை சுட்டிக்காட்டல்	2 நிமிடம்	**முன்கணிப்பு** • பல மருந்து எதிர்ப்பு காசநோய் உருவான பின் பேணி காப்பது மிகவும் கடினமான ஒன்றாகும் • சரியாக கவனிக்காமல் இருந்தால் இறப்பு கூட நேரிடலாம்	ஆய்வாளர் பல மருந்து எதிர்ப்பு காசநோயை சுட்டிக்காட்டினார்	கவனித்தல்
	பல மருந்து எதிர்ப்பு காசநோய் பற்றிய மூடநம்பிக்கைகளை எடுத்துக்கூறு	1 நிமிடம்	**மூடநம்பிக்கைகள்** • பல மருந்து எதிர்ப்பு காசநோய் தீய ஆவியால் உருவாகிறது • பல மருந்து எதிர்ப்பு காசநோய் ஒரு பரம்பரை நோய்	ஆய்வாளர் பல மருந்து எதிர்ப்பு காசநோயை எடுத்துரைத்தார்	

வ. எண்	பங்கேற்க்கும் குறிக்கோள்	நேரம்	பொருளடக்கம்	ஆய்வாளர் செயல்பாடு	பங்கேற்ப்பாளரின் செயல்பாடு
			• எனக்கு காசநோயின் அறிகுறிகள் இல்லை,அதனால் காசநோயும் இல்லை **முடிவுரை** பல மருந்து எதிர்ப்பு காசநோயாளிகளை பேணி காப்பதற்காகவே பல,உடல்நல பொருப்பாளர்கள் உள்ளனர்.அவர்கள் கொடுக்கும் ஆலோசனைகளை கடைப்பிடித்தால் இந்நோயை கட்டுப்படுத்தலாம்.ஆதலால் பல மருந்து எதிர்ப்பு காசநோயை கட்டுப்படுத்த அனைவரும் ஒரே நோக்கத்தோடு ஒருங்கிணைந்து செயல்படுவோம்.		,

பகுதி – ஆ

வடிவமைக்கப்பட்ட பேட்டி அட்டவணை

1. காசநோய் உருவாக காரணம் என்ன ?

    1. கொசுக்கள்
    2. நுண்ணுயிரினால்
    3. காற்று மாசுப்பாடு
    4. தண்ணீர் மாசுப்பாடு

2. காசநோய் மற்றும் பலமருந்து எதிர்ப்பு காசநோய்க்கும் உள்ள வேறுபாடுகள் என்ன ?

    1. எந்த இணைப்பும் இல்லை
    2. பக்கவிளைவு
    3. ஆபத்துக் காரணிகள்
    4. பெரும்விளைவு

3. பலமருந்து எதிர்ப்பு காசநோய் என்றால் என்ன ?

    1. ஊட்டச்சத்து குறைவு காசநோய்
    2. அதிக அளவு மருந்து உட்கொள்ளுவதால்
    3. சரியான முறையில் மருந்து உட்கொள்ளாததால்
    4. ஒவ்வாமையால் ஏற்படும் காசநோய்

4. பல மருந்து எதிர்ப்பு காசநோயை எப்படி வகைப்படுத்தலாம் ?

    1. ஏதேனும் ஒரு மருந்து எதிர்ப்பு
    2. முதற்க்கட்ட மருந்து எதிர்ப்பு
    3. 2–ஆம் கட்ட மருந்து எதிர்ப்பு
    4. இரண்டிற்க்கும் மேற்ப்பட்ட மருந்து எதிர்ப்பு

5. பல மருந்து எதிர்ப்பு காசநோய் எந்த நாட்டின் பெரும்சுமையாக கருதப்படுகிறது.

    1. சீனா
    2. பங்களாதேசம்
    3. இந்தியா
    4. அமெரிக்கா

6. பல மருந்து எதிர்ப்பு காசநோயால் ஏற்படும் மக்களின் இறப்பு விகிதம் ஒரு வருடத்திற்கு இந்தியாவில்

1. 50,000க்கும் கீழ்
2. 50,000 – 1 லட்சம்
3. கிட்டதட்ட 2 லட்சம்
4. 5 லட்சத்திற்கு மேல்

7. பல மருந்து எதிர்ப்பு காசநோயின் மிக முக்கிய ஆபத்துக்காரணிகள் யார் ?

1. எய்ட்ஸ் நோயாளிகள்
2.5 வயதிற்குட்பட்ட குழந்தைகள்
3. பரம்பரை நோய் உடையோர்
4. கர்ப்பிணிகள்

8. எய்ட்ஸ் நோய் உள்ளோர்க்கு அதிக அளவில் பல மருந்து எதிர்ப்பு காசநோய் ஏற்படுவதற்கான காரணம் என்ன ?

1. எதிர்ப்பு சக்தி குறைபாடு
2. இன்சுலின் குறைபாடு
3. ஊட்டச்சத்து குறைபாடு
4. ஆறியாமை

9.வாழ்நாளில் எய்ட்ஸ் நோயாளிகளுக்கு காசநோய் ஏற்படுவதற்கான ஆபத்து விகிதம்

1. 50%
2. 10%
3. 100%
4. 2%

10. பலமருந்து எதிர்ப்பு காசநோய் உண்டாக காரணம் யாது ?

1. மருத்துவ கட்டத்தை இடையிருவதால்
2. நோயாளியின் மருத்துவ கண்காணிப்பு பற்றாக்குறை
3. தடுப்பு மருந்து இடாததால்
4. விழிப்புணர்ச்சியின்மை

11. மருந்து எதிர்ப்பு காசநோயால் ஏற்படுவது

    1. மூட்டுவலி
    2. மஞ்சள் காமாலை
    3. காதுகேளாமை
    4. பார்வை குறைவு

12. மருந்து எதிர்ப்பு காசநோய்க்கான பரிசோதனை முறை

    1. மருந்து ஈர்ப்பு பரிசோதனை
    2. எக்ஸ்ரே
    3. சி.டி.ஸ்கேன்
    4. அறிகுறிகள் மூலம்

13. பல மருந்து எதிர்ப்பு காசநோயின் சிகிச்சை கால அளவு

    1. 3 மாதம் வரை
    2. 6 மாதம் வரை
    3. 2 வருடம் வரை
    4. 3 வருடத்திற்கு மேல்

14. பல மருந்து எதிர்ப்பு காசநோய் சிகிச்சை முறை எத்தனை கட்டமாக பின்பற்ற வேண்டும் ?

    1. 2 கட்டம்
    2. 1 கட்டம்
    3. 3 கட்டம்
    4. 5 கட்டம்

15. பின்வறுபனவற்றுள் சிகிச்சையின் போது நோயாளிகளிடம் முக்கியமாக கண்காணிக்க படவேண்டியது.

    1. அதிக எடைகுறைவு
    2. புதியதாக ஏற்படும் தடிமன்கள்
    3. வியர்வை அதிகரிப்பது / குறைவது
    4. தொடர்ந்து மயக்கம் ஏற்படுவது

16. நோய் பரவுதலை கட்டுபடுத்துவதற்கான நல்ல பழக்க வழக்கம்

1. சுகாதாரமான சுவாச முறை
2. தடுப்பூசி இடுவது
3. சுற்றுப்புற சுகாதாரம்
4. ஆரோக்கியமான உணவு

17. இந்நோயாளிகள் என்ன வகையான உணவு அதிகஅளவில் உட்கொள்ள வேண்டும் ?

1. எல்லா வகை உணவு
2. புரதச்சத்து உணவு
3. கொழுப்புச்சத்து உணவு
4. மாமிச வகை உணவு

18. காசநோயுள்ள சர்க்கரை நோயாளிகள் பின்பற்ற வேண்டிய முன்னெச்சரிக்கைகள் எது ?

1. தடுப்பூசி
2. போஷாக்கான உணவு
3. சரிவிகித இரத்தசர்க்கரை அளவு
4. வழக்கமான உடற்பரிசோதனை

19. பொருத்த மற்ற சிகிச்சையினால் ஏற்படும் பின்விளைவுகள்

1. இறப்பு
2. சிறுநீரகச் செயலிழப்பு
3. நுரையீரல் புற்றுநோய்
4. சீழ்ப்பிடித்தல்

20. காசநோய் / பல நோய் மருந்து எதிர்ப்பு காசநோய்க்கான மூடநம்பிக்கை என்ன ?

1. குணப்படுத்த முடியாது
2. தீய ஆவியால் ஏற்படுவது
3. பரம்பறை நோய்
4. இறப்பு உண்டாக்கும்